

IRAN BUSINESS Trends

Premier English Language Business and Lifestyle Quarterly

Artificial Intelligence is Changing the World... Are you Ready?



Uzbekistan President's Visit; The Aftermath & What's Next

Iran-Oman Joint Chamber of Commerce; Bilateral Trade and Investment Potential

The Future of Real Estate According to Damac; Exclusive Interview with Ali Sajwani

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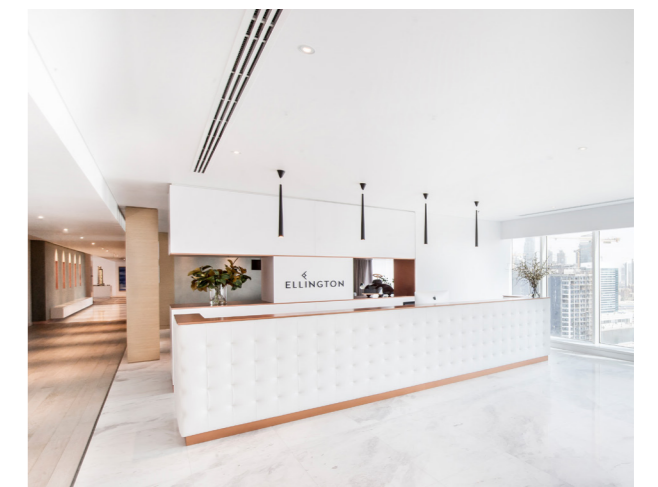
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The First Italian Robotic Laundry in Iran

Equipped with a thorough understanding of the market and having done research on customer needs and what is missing within the industry in Iran compared to common methods in advanced markets, Lahita Tejarat Company decided to invest in a robotic dry cleaner complex deploying advanced mechanized Italian-made machinery alongside experts to provide high-quality services with world class standards.

The name Ahar (starch) is derived from the materials that were previously used to shape collars and cuffs, which is now done by new methods and advanced machinery in the complex.

With deep knowledge of the world's famous brands and the importance of differences between various brands and categories of clothes, such as the kind of fabric, sensitivity in the method of washing, and the types of buttons and stitching, Ahar Complex is redefining the dry-cleaning industry by revolutionizing the traditional laundry system that used to burn and wear out clothes.

Modern methods have been developed to improve the quality of services and make the software system smarter in providing services and delivering clothes, providing e-invoices in the form of a link, eliminating paper receipts for receipt and delivery of clothes, mentioning the brand alongside photo archiving of the customer's clothes at the time of issuing the bill, attaching a label with the customer's identification barcode to re-identify the clothes with the owner's name, informing the customer of any damages or items left in the clothes, returning the clothes without providing any services (in



Ahar Robotic Dry Cleaner

Dry cleaning is the process of cleaning clothes and textiles using petroleum-based solvents in cases where water causes damage to the fabric, as well as for clothes with sensitive textures that can't withstand pressure during washing, rinsing, and drying and can be damaged through traditional washing and ironing processes that many dry cleaners in Iran use. Damages can be caused due to the following reasons:

- Old equipment and a high consumption of perchlorate can cause clothes to be water-cleaned instead of dry-cleaned.
- Lack of enough space in smaller dry cleaners for proper machinery due to their large size.
- Lack of proper equipment in smaller dry cleaners due to unaffordability.
- Non-academic expertise in recognizing different types of fabrics, brands, and various techniques of stain removal.
- Most dry cleaners use a pressing iron which can cause damage to the fabric, discoloration, and make the fabric look worn out due to high temperatures.

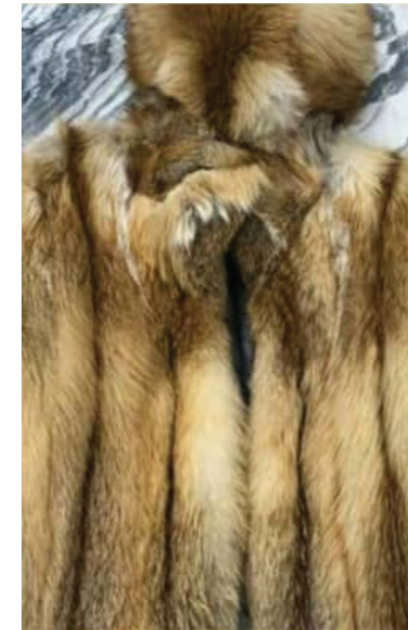
specific cases), outgoing clothes with a smart computer barcode reader system and monitoring of all pieces in the workshop at all times, fastest possible receipt and delivery, English-speaking customer service counter in a 500sqm space in Tehran's District 1.

Different and distinct processes for washing linen, silk, cotton and sensitive fabrics,



PCE Dry Cleaning Methodology at Ahar Complex: No trace of bad smell after dry cleaning

The drying and purification system in these machines removes all used



solvents from the fabric fibers a hundred percent, as a result, there will be no trace of bad smell from the used materials and there won't be any health impacts for customers or operators.

Quality

With the help of technology and up-to-date equipment purchased from Italy's RENZACCI and UNION, and the original laundry materials imported by the company itself, standards and quality at Ahar Complex compete with the world's most advanced countries.

Eco-friendly

Using a new closed cycle system in machines, with EU and US approval and accreditation, means the solvents used in the dry-cleaning process are no longer removed from the equipment in order to prevent pollution and harm to the environment, the laundry operator, or the customer. Also, low energy consumption and prevention of waste of resources including detergent, all confirm the eco-friendly aspects of these types of machinery.

ITALIAN ROBOTIC LAUNDRY

The drying process is equipped with a system that can wash feather clothes, pillows and sleeping items and the mentioned clothes can be washed without a change in their shape, form or condition. T-shirts and delicate clothes are dried



Washing machines and dryers

The precise engineering and current European standards observed in the purchased machinery and the quality of the raw materials and washing enzymes make for a very high-standard wash at Ahar Complex. Using sensitive washing machines, the washing process is possible for all types of clothing.

naturally to maintain their original shape.

Using automatic programs from Europe to raise the efficiency and productivity levels of the equipment, unlike the Iranian ones used in most dry cleaners which are completely manual, leads to saving on energy, electricity, water, and detergent use.



The First Italian Robotic Laundry in Iran

The stain removal process in Ahar

Using stain removal machines isn't a common practice in dry cleaners due to the bulky and expensive machines and raw materials. At Ahar Complex, a special stain removal machine is used for each of the dry cleaning and bleaching methods, because the specific stain removal materials differ depending on every method of dry cleaning or washing. The stain remover solutions used by Ahar Group are therefore from the very best European brands.



Disinfection and virus-killing up to 99.9% (Hygiene)

Aiming to improve the hygiene level of the dry-cleaning process for the first time in Iran, Ahar Group has brought about a revolution in the dry-cleaning industry, by using an advanced, fully specialized antibacterial and textile sanitizing device. Using UV technology and ozone (O3), this device eliminates the bad smell of cigarettes and substances that can't be removed by the washing process. It is also able to remove viruses, bacteria, mold, fungi, and allergenic dust.

The items that can be disinfected include baby accessories, strollers, woolen and plastic dolls, blankets, pillows, boots, helmets, gloves, mountaineering gear, and skiing equipment.



The Ironing process at Ahar Complex

The ironing process at Ahar Complex is done in a completely specialized way using modern pressing mannequins.

Each garment in this complex is pressed using an iron mannequin (pants, collars and cuffs, shirts, coats, and t-shirts).

The differences between these mannequins and the traditional presses are; the absence of electrical shocks and fabric burns, no discolorations, no creases on pants even the sides, shaping the edges of pockets, absence of sagging shoulders, correct shaping of the collar and shoulders, no damage to the buttons, no changes in the size or shape of sensitive clothes, no damage to the images or labels, etc.



The Subtlety Process

This process is done by hand for all clothes at the end, just like seven-star hotels.

Tailoring and mending clothes

Mending and sewing, are done by the most experienced tailors at this complex

The washing process for bags and shoes

Washing all kinds of formal or sports shoes. Waxing and polishing leather and varnished shoes with the highest quality materials by the best brands in the world.

Ahar Laundry Café

Serving premium coffee with Italian coffee machine.

Ahar Group is expanding its business to provide services to more clients soon. At this time, we feel it is appropriate, to thank all those who have helped the complex to reach its current position in such a short time, especially the Hally Group for their unwavering support.



ITALIAN ROBOTIC LAUNDRY

Manager & Co. Founder:
Hamed Samani

Graduated with a Master's Degree in Entrepreneurship from Allameh Tabatabaee University
MBA Certificate from University of Tehran

Founder :

Reza Dehghani Mofradpour

No.1, Alef St., Velenjak Blvd.,
Thran- IRAN
Phone: 0098 21 720 96
Instagram: @aharlaundry



Combining Two Arts (Graphics and Architecture)



Mr. Kourosh Mostofi

Mr. Kourosh Mostofi has been an active business face during the past few years; regarding his expertise in marketing, entrepreneurship consultant, establishment, development, standardization of sales and service franchising networks, and ideation in combining graphic arts with the construction industry

not seem very logical. For that reason, by using the analytical and developmental descriptive methods, collecting data, and field observations; a new link between the design method and the modern execution method of Kufic inscriptions of Bannai or Benai (Maaqeli) was created in such a way, that the designing method is chosen from a difficult or overlapping type with no additions or deductions during design or execution. Complying with all of the following items will make these distinctive and different designs and executions more evident:

Bannai script is a style of Kufic calligraphy that emerges from drawing geometric shapes (squares, rhombuses, rectangles, as well as parallel and intersecting lines) based on a checkered pattern.

After the fifth century, Hijri*; Bannai lost its first use in writing the Holy Quran; it gradually went through its stages of growth during the Ilkhanate* and Timurid* periods, which are considered the flourishing periods of calligraphy, along with various lines such as Thulth, decorative Kufi, Naskh, etc. for sculptural decorations, plastering, tiling and brickwork for internal and external surfaces of mosques and religious buildings; porches on the back and sides of arches, the round body of minarets as well as mansions and markets; because it is easier to cut than other lines that are full of twists and turns and it is used in full harmony with the main elements of the building or the facade covering.

The other name of Khat Bannai is Maaqeli, which is pronounced in two ways: one is Maaqeel, derived from the thought and art the calligrapher puts into drawing the lines, and its reading also requires wisdom. The other is Maaqeel (rhymes with Mahfil) which means a wall, a castle, a shelter, or a high mountain. Because its letters, like the inhabitants of a castle, encompass each other in such a way that it is difficult to reach them, create division, or change them. Bannai is also pronounced in two ways, both of which are correct.

One is Banai or Benai, which attributes this line to buildings, and the other, due to its decorative use in architecture, is Bannai because the designers of this line were most likely architects.



In 2018, a professor of calligraphy, in response to the defects that can be seen in most inscriptions of this type of calligraphy, stated:

"These defects are the nature of calligraphy due to limitations of space; the artist has to remove or add some letters with a circular movement to complete the work!"

The designs and executions that have been carried out with this font so far, are generally incomplete and don't contain all aspects, so hearing this answer from a calligraphy master did

1. Uniformity in thickness of Sawad (black empty spaces) and Bayaz (colored spaces)
2. Quadrilateral designs (squares and rectangles)
3. Equal distances between vertical and horizontal lines
4. Lack of uncertainty in reading the words due to the placing of the letters
5. Embedding letters next to each other without any empty squares and extra spaces between the lines and words

6. Every word has its corresponding points
7. Not using extra points to fill empty spaces
8. Lack of repetition and rotation in letters and words
9. Legibility due to the completeness of the words
10. Not removing a point or letter due to insufficient spacing
11. Complying distances according to the rules of graphic art and design in a certain framework

achieved from the integration of graphic art in the architecture of the world, especially in Islamic countries, to achieve magnificent buildings with eternal and beautiful designs in internal and external architecture; such as the facade of residential, offices, commercial buildings, religious and cultural properties, services or medical buildings. It could also be used for walls and foundations of highway bridges; urban signs inside parks, squares, and subway stations; urban billboards; and etc. in any desired dimensions.

The possibility of implementing special designs to narrate a part of the history or culture of countries (on a very large



12. The possibility of designing in various dimensions and formats
13. Filled in surfaces both vertical and horizontal
14. Lack of a forced rotation in words

This new design is very important since it preserves and promotes the existential philosophy of Bannai or Benai, using Iranian calligraphic art to fix conventional defects. It has intertwined with architecture in a very creative and innovative way, with the hope that valuable and impressive progress could be

dimension) is one of the other capabilities of this method. It is worth mentioning that all projects ready for implementation have licenses from the relevant organizations (Dar al-Qur'an al-Karim and Intellectual Property Office of the Ministry of Islamic Guidance, the Islamic Republic of Iran).

* Around 1000-1100 AD
* Mongol Empire that ruled over Southwest Asia during 1256-1335 AD
* Turco-Mongol Empire that dominated Greater Iran during 1370-1507 AD



0098 919 023 0282
kourosh.Mostofi.a@gmail.com

Iran's Economic Outlook

Spotlight on UN 2023 Water Conference with the Presence of Tajikistan

Iran-Oman Chamber of Commerce; Bilateral Trade and Investment Potential

Introduction to AI Applications: Revolutionizing Industry

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Using Animal Symbols in the Fashion Industry

Will artificial intelligence revolutionize diet and fitness programs?

A Stroll Through Tabrizi Museum of Anthropology

The Evolution of AI in Music: A Glimpse

Everything Everywhere, All at Once: A Hypermodern Masterpiece

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Up & Coming

New Agents of Art

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On the Cover



Inspired by the main theme of this issue, our latest cover is a colorful mixture of a human and a robot, depicting how Artificial Intelligence is changing the world around us.

It is neither a happy picture nor a sad/gloomy one, designed to communicate that AI is neither good or bad... or can it be both? It is by the way an AI generated image!



@Trends.Magazine.Mena
www.TrendzMena.com

CONTACT INFORMATION:

#12, 6th Floor, No1, Yasaman Bld. Behzad St.,
North of Saadat Abad Tehran -IRAN
Tel:(+9821) 2676 73 32- 2610 56 52
Fax: (+9821) 2683 06 19

E-Mail: Info@TrendzMena.com
Instagram: [@Trends.Magazine.Mena](https://www.instagram.com/Trends.Magazine.Mena)
www.TrendzMena.com

Trends

Editorial Team

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Amir Cyrus Razzaghi

Chairman:
Aram Razzaghi

Art Director & Graphic Designer:
Jamshid Shahmoradi

Marketing & Public Relations Director:
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Content Coordinator:
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Dubai Representative:
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Cyrus Vaziri

Printing House:
Andisheh Bartar

Content Contributors:
Farid Atighehchi, Turquoise Partners, Maryam Rahmani, Iran-Oman Chamber of Commerce, Embassies of Uzbekistan and Tajikistan, Dr. Kourosh Resalati, Damac Properties, Ellington Properties, Hamid Samani and Modiran Khodro.

Editor-in-Chief & Chairman



MESSAGE



Welcome to the 9th Issue of Trends!

In case you wonder what happened to Issue number 8; it was a special edition, dedicated to Uzbekistan on the occasion of the Uzbek President's landmark visit to Iran, and distributed only through the Embassy and not our usual channels. You can, however, access the content on our website at: www.TrendzMena.com.

As we approach the end of an unusually hot summer, globally (according to scientists July 2023 has been the hottest month of the past 120,000 years!), Iran has been experiencing the impact of climate change first-hand; unprecedented heat waves in southern regions, deadly drought and water shortage throughout the country, with the latter becoming so alarming that experts believe water will be Iran's number one challenge in the next 5 years, leading to potential loss of life! Massive storms, including a major recent one in Dubai tells us that the greater region is suffering from the phenomenon, like the rest of the world. Can technology, including artificial intelligence help?

Artificial Intelligence (AI) is indeed the main theme of this edition of Trends. We start from AI 101, covering the basics and then move to its applications in various industry sectors including agriculture, automotive and healthcare. We also discuss the risks and perils that AI poses to humanity and how they can be addressed.

In this issue, we also have exclusive interviews with HE the Ambassador of Uzbekistan to learn more about the outcome of the President's visit to Iran, as well as with the Secretary General of Iran-Oman Chamber of Commerce to explore business synergies between the two countries. We also have an update on the President of Tajikistan's Global Water Initiative that we first covered a couple of issues ago.

Finally, we have an exclusive interview with Ali Sajwani, the prominent Managing Director of Damac Properties Operation and Technology divisions to get an update on the real estate market scene in Dubai, as well as how the company is deploying advanced technologies including AI in various functions from landscape design all the way to sales and marketing.

This issue of Trends also features some amazing projects from both Damac and Ellington in Dubai, two top developers in our region.

As for the highlight of the Lifestyle section, we will cover the impact of AI on everything from sport and diet to art, fashion, photography, cinema, music and gaming. We also have a critical review of the Oscar-winning innovative picture, Everything, Everywhere, All at Once! Enjoy...

Amir Cyrus Razzaghi
Editor in Chief

Aram Razzaghi
Chairman

Trends

Iran's Economic Outlook

By: Farid Atighehchi



In the past few weeks, news came of Iran-Saudi Arabia rapprochement brokered by China. Iran became a full member of Shanghai Cooperation Organisation and expects an operational free trade agreement with the Eurasian Economic Union by September. The government opened up to Kuwait and Egypt and inches towards much closer relationship with several countries in South America which shares its sentiments for a new world order. The Iranian President concluded a rare tour of Africa and there are small-business Russian visitors you can spot in trade fairs in Tehran. As for the economy, the general sentiment is one of an uneasy calm. A recent study published by the Central Bank of Iran, using a sample of public companies, shows the only growth in the past two years has been in import-based businesses while others continue to suffer declines. The government is obtusely laxing regulatory considerations to help attract retail investors to siphon uninvested money –to control inflation. Financial institutes are changing their missions to facilitating transborder capitals, assets and transfers.

The Iranian government's posture is now one of a noticeable confidence that a tacit agreement has been reached with the US and it has the leisure to focus on, say, economic diplomacy with the "East." The question is: if this is a genuine outreach to the political elite's favourite parts of the world, then what could it achieve? In short, a quantitative review shows the imperative for that outreach but a minimal economic effect. We see that excluding a resolution of the outstanding political issues with the West in a sustainable manner, other measures cannot add up to an economic recovery in the mid-term future.

Lowering Inflation, Dampening Investment

Consumer price inflation during the previous year was officially recorded at 45.8% with the food basket at 70.5%. Since July last year when the official monthly inflation passed 10%, the fear of hyperinflation has become widespread among households. Analysts diverge on the eventuality but many agree that extreme situation is not just a distant possibility anymore.

Inflation expectation is a contributor that is not easy to rein. In the daily transactions in Iran, calculations of price are implicitly, and sometimes explicitly, based on dollars. Rises in costs are not abating either. Industries are experiencing higher input costs and the recent survey in the Purchasing Managers' Index shows that costs rose considerably in June compared to the previous month.



Figure 1 Input costs change according to June-July Purchasing Managers' Index. Iran Chamber of Commerce.

The Rial devaluation, shortages of imported supply of intermediate goods, those used in the manufacturing of other products, and a non-stop exodus of skilled, and non-skilled, workers are driving wages, costs and prices higher. The solution? Grow economic activity, grow exports, direct circulating money to production and keep the interest rates low.

Official records from winter show GDP grew by 4.8% during the last year where agriculture and construction contracted at -5.1% and -3.8% respectively; but that growth pale in comparison to the whopping 40% plunge of the GDP from its mark, ten years ago, in 2012. So, we need to take a closer look.

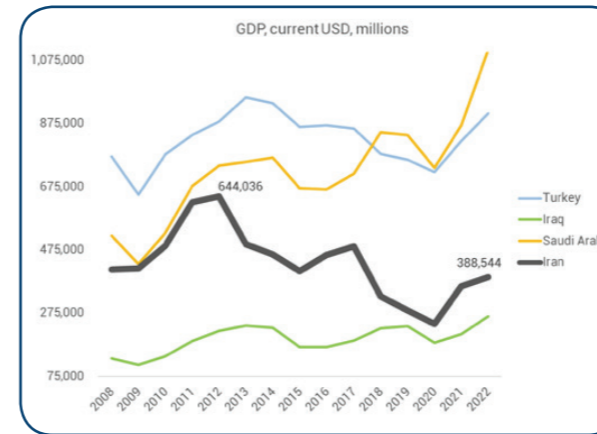


Figure 2 Iran GDP in comparison to the region. The World Bank.

Governments in Iran have tried to keep a check on the circulating money that inevitably finds its way to gold, real estate, dollars and automobiles. While the previous administration tried to direct it to the Tehran Stock Exchange to also take a shot at productivity, political infighting and weak economic fundamentals crashed the capital market, and left retail investors both wary and angry. Recently, the government has been taking control of one of the destinations of that wandering money: automobiles. As people are panicking over keeping the value of their savings from falling, the government intervened in the automobile market –a product increasingly treated as a capital good– and pushed for a huge sale of what is basically not the commodity, but what is known in the financial markets as "options." People pay a large sum to pre-order the cars and they would later pay the actual price. Despite the promises, the actual deliveries are way overdue, without fines, and many are abandoning their option.

The difference is that if this was in Tehran Exchange, the option seller could not so easily default. However, here people did buy options of sort. They paid premiums and are now either waiting for late deliveries, which is pushing more than a year beyond the original expiration dates, or abandoning their option. The difference, this time in favour of the buyers, is that they get their premiums back, unlike in options. This helped the government direct anywhere between 1 to 2 billion dollars of the circulating money into its preferred activities.

As for the interest rates, they have remained officially between 21% to 23%. Even though, the risk premiums are rising. Loan to value rates for collaterals are at a healthy 70% but the liens and other forms of legal and financial liabilities that are required to secure those loans are increasingly prohibitive and, also, the actual offering of loans is scarce. Even then, the rates are too high for businesses already dealing with uncertainty in costs, labour, regulation and market. The government has even relaxed its Islamic-based verdict on debt instruments, where taking interests is banned in what is called "Reba" and "Nozul." Previously only the banks were allowed to offer such loans under the disguise of risk-taking investments. Recently, online crowdfunding platforms are also allowed to sell what are basically debt instruments, although, at what seems to be an



experimental phase, their total market value is capped at around 20 million dollars a year. However, others from semi-governmental construction cooperatives to more private sectors are increasingly relying on working with debt. This is a much larger problem to recuperating the lost share of the GDP –and control inflation– than it seems. A reasonable expected rate of return in Iran, given the market fundamentals, should be around 35% to 49%. But that is for taking risks and debt instruments, are already asking for rates easily higher than this. With the financial and non-financial costs in securing loans, the total cost of debt has been pushed well between 40% to 80%.

Although from the point of view of the investors, the amount of debt financing is limited –because there is not as many requests for debt as there are for investment– that does not readily translate to investors putting their money at risk in equity. This may sound counterintuitive in a normal economy but historic precedence explains that too much unpredictability changes the market behaviour about spending and investment especially if subject to further into the future. But as much debt may be limited as an investment opportunity, its price is shooting up the cost of equity way beyond anything for the businesses to work with. Today in the market, expected Rial returns on equity for cash investments easily reach 96%.

At best, this limits investment flows to within the parameters of individual networks of companies. At worst, this violently breaks equity investments all together. The only thing mitigating these effects might be what we could call a burgeoning, unofficial de-privatisation, where the state ensures business activity is more and more under the helm of its agents. This has its limitations too where, not considering the mid-to long-term impact on social welfare and economic growth, agents do not even have the motivation to be economically competitive while they have access to rents and they are not fundamentally competent either.

So, when the President embarks on a tour to Africa or South America, or when we are greeted with a surprise rapprochement between Iran and Saudi Arabia, does that mean the exports will come to the rescue of an increasingly tricky economic situation?

Iran's Economic Outlook

By: Farid Atighehchi



Economic Diplomacy

What are the objectives of the Iranian diplomacy right now? We can expect it to be driven by a short list of goals. It might include mitigating the threat of socially- and economically- instigated, domestic unrest, mitigating perceived or present exposures to supra-regional powers such as the US or China, and reducing perceived or present threats from regional states. This helps us discern the level of political and economic motivations guiding what the Iranian government characterises as economic diplomacy. This merits a level-headed discussion of its own and here we suffice to keep the possibilities in mind. That could help us manage our expectations about the future.

For example, modelling economic fundamentals, we see that the export of automobiles, in any form between CBU, where the car is transported from Iran in its entirety, to joint-venture factories in the destination, are not feasible or profitable on their own. However, there are strategic reasons, and good ones, that guide Iran's market entry by automobiles, for example in Venezuela or Kenya, automobiles sell in large numbers, and their complexity means very large R&D costs. Somewhat similar to manufacturing airplanes, the capability to build them in any market is a huge economic advantage. Iran's gambit of offering joint manufacturing, where Iran is practically transferring the technology and know-how, is highly lucrative for the partner.

This will barely benefit Iran economically in any optimal way, even though selling the assembly and after-sales parts could be profitable for Iran as well. However, with its huge size, it opens up a full-fledged trade route or a space for discussion between two countries for many other products, which otherwise would be left to the preferences and decisions of random merchants.

How Much is the Success Worth

Iran's focus in the Commonwealth of Independent States is regional integration –based on both economic and security motivations. For that reason, Iran joined the Eurasian Economic Union (EAEU) and is in talks to consolidate closer trade relationships. Regional integration could be seen

through the lens of coordinated policies and with the metric of tariffs imposed by each market on its partners' supply. The levels of relationships differ and historically Iran has been closer, in political terms, to some countries than others. We can try and see the possibilities of such close relations both in EAEU and the nascent détente such as with Egypt and Saudi Arabia.

We can use data since 1980 across a number of factors, excluding distance, to gauge the level of political and trade coordination. These are also the countries we sample here for our review. They are representatives of regional groups Shanghai Cooperation Organisation (SCO), Gulf Cooperation Council (GCC), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), select countries from the Latin America (LatAm) and significant African states outside of EAC and COMESA (Other Africa). It is interesting to see that while the depictions are based on a model that is primarily political and discounts distance, we can still see a closer affinity with those in closer proximity.

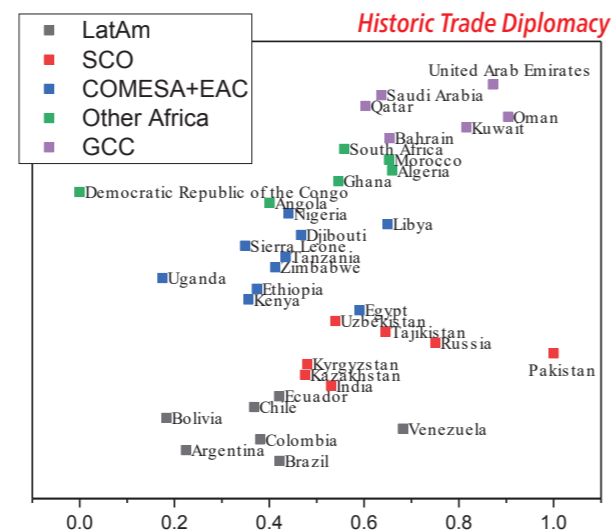


Figure 3 Historic rapport between Iran and select countries. This is a measurement of a limited set of select parameters, including a number of trade agreements, level of diplomatic representation and UN vote coincidence, and is only indicative. Own study.

To quantify the prospects of economic diplomacy in terms of lowered tariffs, we studied a sample the size of about a tenth of Iran's current, total non-crude oil exports, equal to around 6 billion dollars, to countries across different geographical regions of economic interests. An optimal scenario is where those countries lower tariffs on imports from Iran than most favourable nation levels (MFN). MFNs indicate tariffs that you expect from an importing country to levy without discrimination.

That is the case in most of the Iranian trade. Then there are free trade agreements (FTA) that basically remove all such tolls and only happens between countries with very close trade relationships, in select products or in special situations. In between the two, countries may set a lowered rate through trade agreements. If we model our sample international markets lower tariffs on imports from Iran to the lowest non-FTA levels they already have, we will see what we could expect the short-term effects of successful Iran's economic diplomacy would look like.

In absolute terms, the model shows the largest gains are in the SCO, at about 1.8 billion and the lowest are in COMESA and EAC with only 18 million dollars. In relative terms, exports to "Other Africa" could be doubled, to Latin America would rise by 64%, to SCO by 46% and to GCC by 13%. The lowest relative raise is in COMESA and EAC by only 6%. Overall, the model shows room for 57% increase in trade value in our sample.

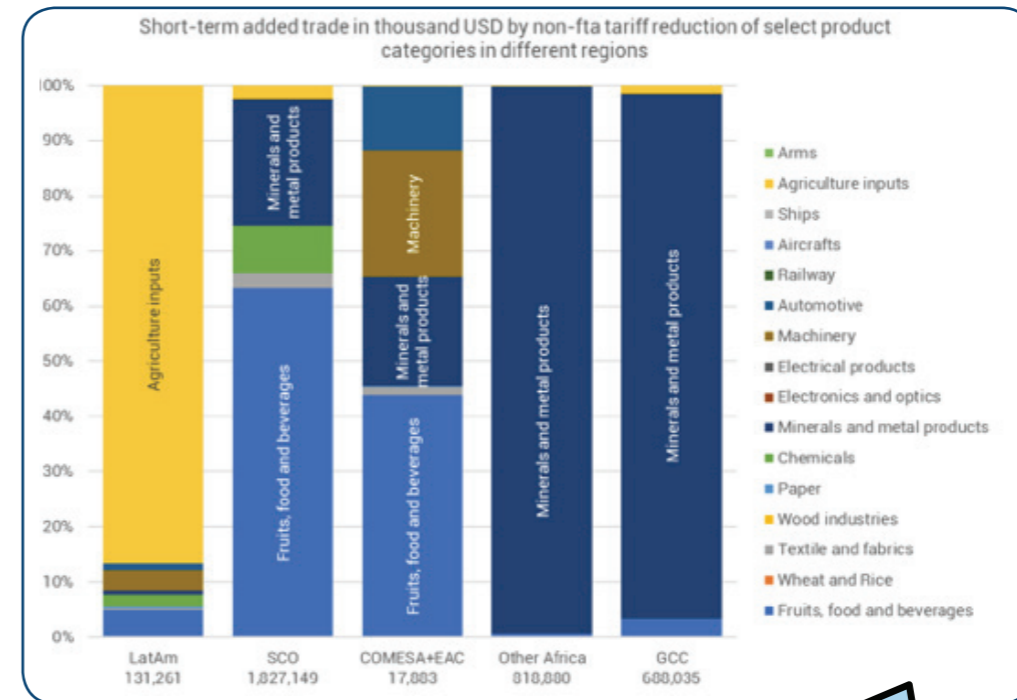


Figure 4 Short-term effect of non-FTA tariff reduction on imports from Iran in absolute USD terms. UN data, own study.

For that potential to materialise, assuming the government is successful in negotiating lowered tariffs, Iranian products must be competitive. Modelling relative competitiveness, we can see that Iranian-made products are most competitive in African countries. There is also the matter of distance and geographic access through land and sea which we can incorporate in the overall model.

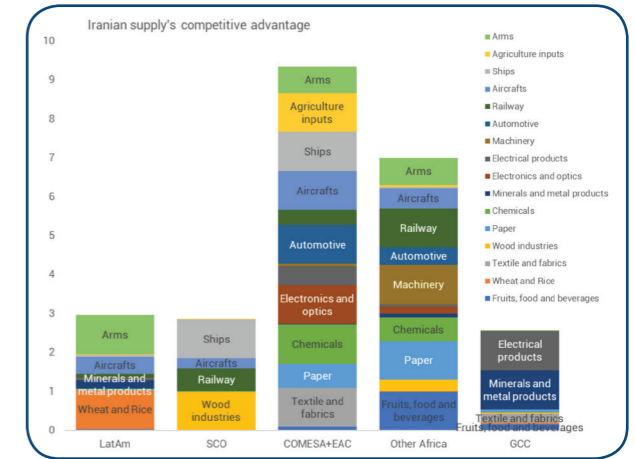


Figure 5 Iranian competitive advantage in different product categories relative to each regional market. UN data.

And to have a more realistic expectation of where the gains could occur, we can take a look at the current level of imports from Iran, relative to the total imports in each country in each product category. Where this number is higher Iran has a better negotiating position to argue in favour of lowered tariffs. Currently, Iranian exports to Africa have the most weight to that continent's total imports, relative to imports from other sellers. If we look more closely here, we will see the room for tariff reduction in each of the countries.



Iran's Economic Outlook

By: Farid Atighehchi

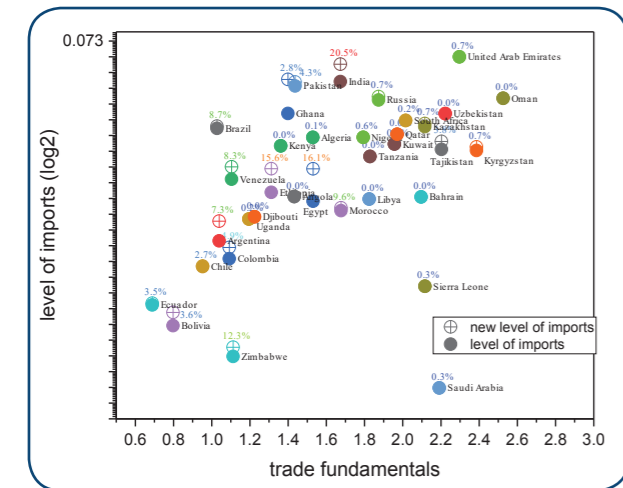
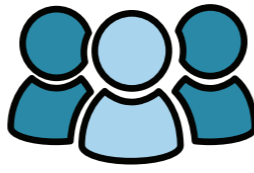
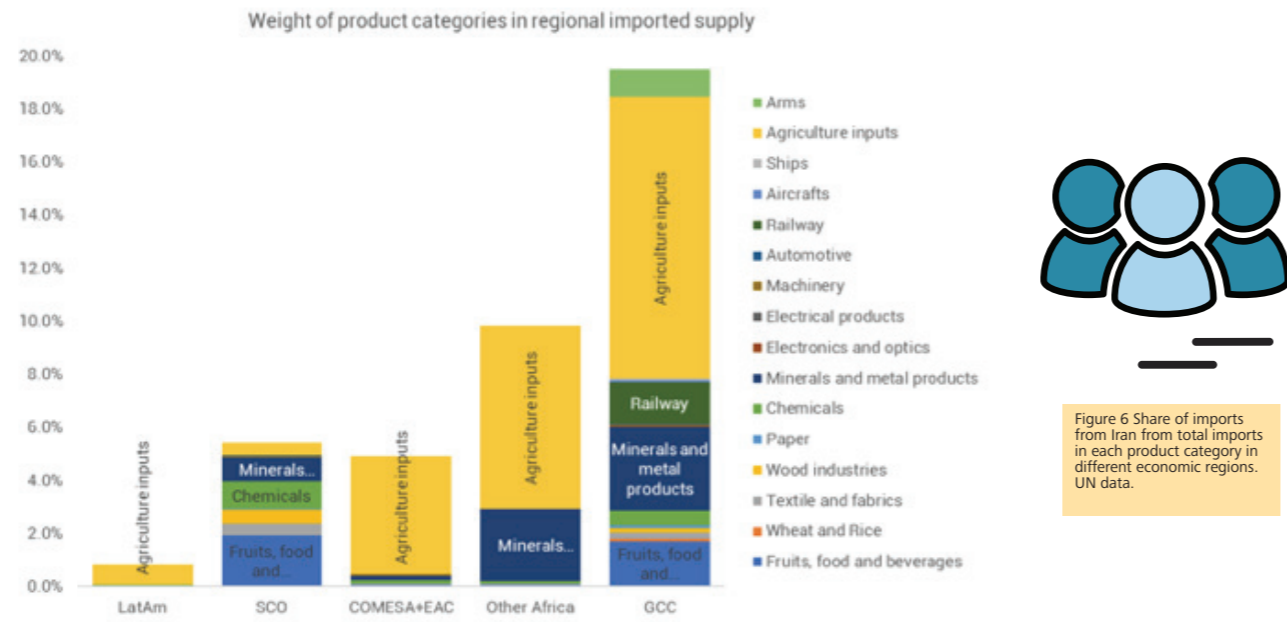


Figure 7 Trade fundamentals include measures of political and economic coordination and access, including distance costs. The chart shows current and potential levels of imports from Iran in each country. Numbers on data points indicate the average percentage-point reduction in tariffs in the sample. Own study.

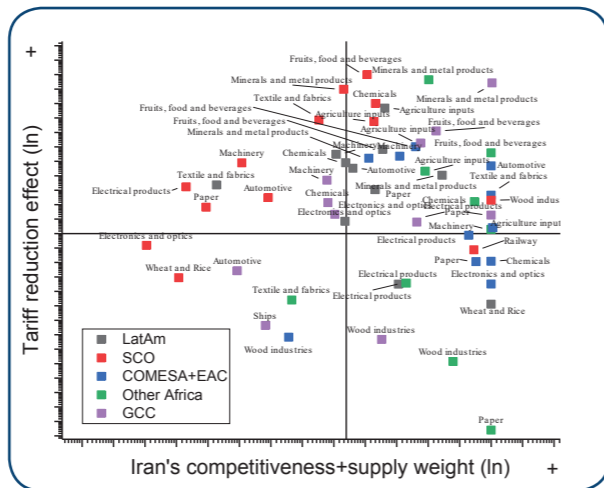


Figure 8 Room for absolute non-FTA tariff reduction effects in USD, and Iranian access and competitiveness, in different product categories and economic regions. Own study.

Putting all these together we have a picture of the level of potential growth in Iranian exports in each market and product category.

Infrastructure and Domestic Actors

Then there is the matter of infrastructure. Products need to be transported. There should be shipping lines, trains and land routes, vehicles and tankers, loading docks and ports to facilitate any opportunity for the transaction to actually happen. International North-South Transport Corridor has been a project, lauded for how it will contribute to the trade in South Asia, West Asia and Eurasia.

However, most of its two-decade history has been in hiatus. After the onset of the Russia-Ukraine military conflict, the project has received a renewed attention from the Russians and Iranians.

The project is currently short of railroads, land routes and loading docks. Iranian and Russian efforts last year to set up ro-ro docks in the Caspian Sea have so far had an insignificant impact on the route's function. Despite the attention Iran wants to garner for the project, actual investment in the infrastructure has not picked up and the country officials are frustrated with rival routes such as the Chennai-Vladivostok Maritime Corridor. Frustrations even include land routes in Pakistan where trucks load more than what is allowed in Iran, effectively lowering the cost of land routes. While part of this is about the transit fees Iran could make, any rerouting around Iran means less investment in the infrastructure that Iran needs to access international markets. There is also the financial infrastructure which should facilitate the transfer of money and credit. There is talk of barter or trading in non-dollar currencies, especially with the hot topic of a BRIC cryptocurrency. But these efforts have so far been limited or are long away in the future, for example, given

the decades of Chinese integration with the US economic system, decoupling BRICs from the US dollar is hard to see in the medium-term future.

Then there is the matter of policy and allocation of rents in Iran. For example, two new fronts between the Iranian private sector and the state, increasingly throw doubt on the state's goodwill in having its economic diplomacy work for the Iranian market. Recent elections in the chambers of commerce were bristling with clashes between the state and the members as the state is pushing to take full control of what should be an electoral body representing the private sector.

The bar associations are another place of similar contention. It is hard to see how such moves by the government could possibly do anything but harm the institutional fabric that could support the growth of trade. Chambers of commerce are key in aligning interests with foreign markets and in contributing to policies that work. This ties up the bureaucratic system as well, as until the natural function of the chambers of commerce is acknowledged or they are fully dismantled, policymakers, regulators, official bodies and merchants are not aligned. And as for bar associations, they are important in ensuring that the regulations and the law are understood and translated to contracts and procedures smoothly. We also need to remember that the elite in Iran have been dwindling in number, and the concentration of power seems to be progressing. But the Iranian elite are reliant on rents and political resources and so their decision-making is ultimately based on anything but fundamental economics. Where the fundamentals are important, whether for the remaining private sector or the state's economic agents and businesses, their planning and decision making is not supported by quantifiable studies and advanced management practices. This is further exacerbated by the exodus of human capital from manufacturing and services. These cannot hurt the competitiveness Iran needs to boost, and not just maintain, the level of trade.

Outlook

At its highest, in 2012, total Iranian exports were made up of more than 100 billion dollars in crude oil, energy and fuels, and about 25 billion more in other categories. At the time, GDP was also at its historical top. In modelling about one tenth of the non-oil exports of Iran, we see the short-term, potential increase of 3.4 billion dollars or 57%. If we were to impulsively guesstimate what that number would be if we modelled the entire basket of products, it might have been close to 30 billion dollars. That guess would bring the total level of non-crude oil and energy exports to the range of 75 billion dollars. That is still too small to meaningfully help recover the GDP to its record performance. We know that combined with rebuilding trade relationships to the levels of 2012, and removing obstacles imposed by the US sanctions against Iran, the effect of tariff reduction will exponentially grow that is if we modelled the same decrease in tariffs based on 2012 level of exports, the effect would be much larger and significant. Part of that exponential growth comes from the access to foreign currency which is in turn used to import intermediate goods that Iranian industries and agriculture need to work at capacity. However, for that intricate dynamic to end in exponential growth, it needs a seamless and efficient way of allocating the scarce foreign currency in the first place not considering the prohibitive costs of debt and equity. Also, as long as Iran is confined to an oligopsony, that is to a limited set of buyers in the world, its lower prices in products do not come from lower costs but a necessity to oblige to selling at lower margins or at a loss whether with most favoured nation or

trade agreement tariffs. Additionally, the US sanctions not only make logistical and monetary costs higher but also deter many clients from buying from Iran.

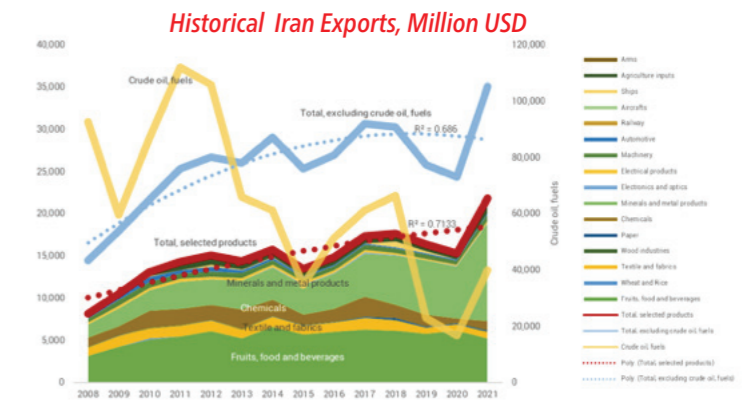


Figure 9 Historical value of Iranian exports in different product categories. UN, WTO data.

So, even if we indulge ourselves and use guesstimates along with the results of a fairly accurate model of our sample, the US still holds great sway over the annual economic production of Iran because of its sanctions on oil and energy exports. That has given the US an advantage we can see it uses unapologetically and methodically in its wavers from Iraqi payments for electricity to Indians working on Chabahar. This situation has a peculiar effect as well. Crude oil and energy markets are concentrated. That is, the stakeholders throughout their value chain, from producers to tankers to buyers, are a small circle of state or quasi-state players. The rest of the product categories, for example clothing, fruits or valves, which is an amount equal to 30% to 100% of the exports of crude oil and energy, depending on our benchmark year, are highly fragmented. Their value chains are comprised of private sellers, buyers and intermediaries that are not directly involved in political negotiations, each make their decisions based on personal business preferences and on the overall political risk and business environment. With the US, Iran and other states procrastinating in reaching a stable compromise, it is the fragmented, private market that bears the burden. And as the government in Iran is failing to curb high costs of debt, let alone costs of equity, both capital and business operations would naturally migrate. Even if the Iranian state ensures the private sector is basically comprised of its agents, then they have to be paid and there are so many rounds you can salvage public assets to hand out.

Economic diplomacy then, in terms of what it commonly signifies or the government seems to imply, cannot secure the economic growth Iran needs in the short- and medium-term future. Iran does need a political fix. It needs to create stable and reliable solutions in all the pathways and competitive product categories in its international trade before it can enjoy a meaningful economic recovery. Those are building bilateral and working relationships with as many buyers as possible, lowering tariffs, mending its logistical issues and resolving tensions, including the US sanctions. Makeshift solutions lock the majority of trade volume and stakeholders out of any results that the Iranian government's economic diplomacy may produce. The outlook for the next twelve months will be a mild GDP growth, slower rate of Rial devaluation and slower rate of production cost inflation, but there are no significant opportunities for growth in sight either. The government's current efforts help it stay liquid and may build the delicate foundations for the long-term, but until all the fundamental issues are dealt with sustainably, we cannot expect the current diplomatic work to significantly revive trade and business. Even then, all the effort contributes to growth and none can be abandoned.

Performance Analysis of Tehran Stock Exchange (TSE) in June

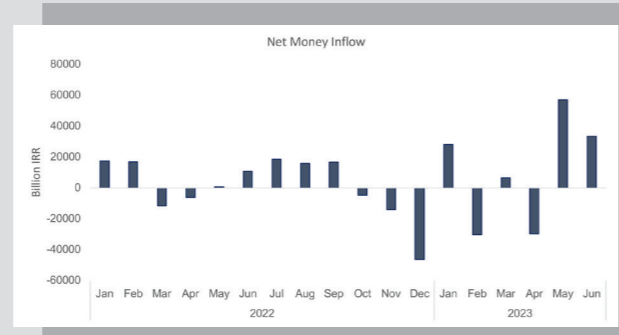
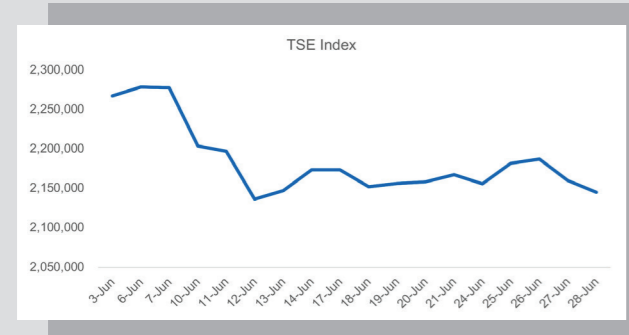
By: Turquoise Partners

The TSE Index Overall Performance

Given both the uncertainty on Iran's political negotiations with the US and also ambiguity on the government's decision regarding the natural gas feedstock rate, the Tehran Stock Exchange (TSE) fell in June. The index fell by 4.9 percent in June, but the year to date increase in the index is still 37.3 percent.

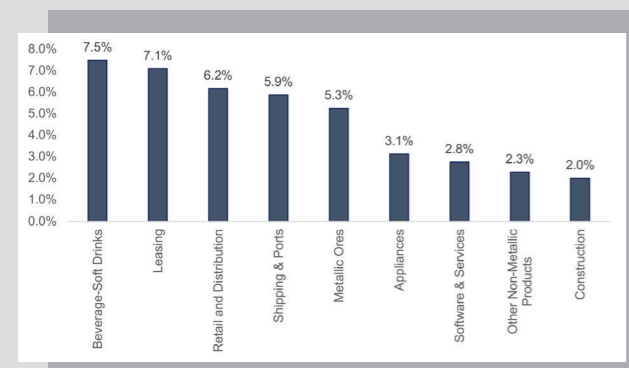


TURQUOISE PARTNERS



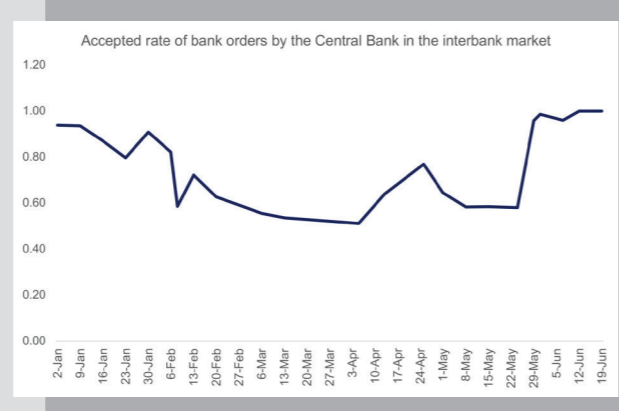
Sectoral Heterogeneity Performance

Despite the fall in the TSE index in June, sector performance has differed over that period. Beverage and soft drinks, leasing, retail and distribution, shipping and ports, metallic ores, appliances, software and services, other non-metallic products and construction all recorded a mild appreciation of two percent and above. However, metals excluding iron, petroleum products, chemicals, steel and iron, and investment companies with commodity focused portfolios have had the greatest impact on the index's decline over the past month. These specified sectors account for over 80% of the fall in the TSE index in June.



Macroeconomic Drivers of TSE Index

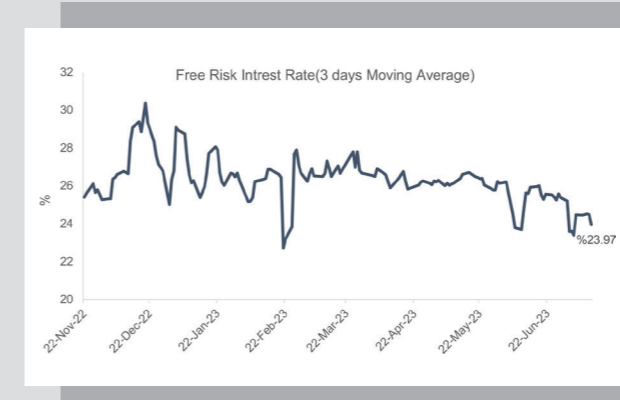
In the short-term, the change in the direction of the TSE index depends on the policies of the central bank, especially regarding the determination of interest rates. In June, the central bank started to supply more resources to the interbank market; consequently, the ratio of accepting orders from banks to the total order requested in the interbank market has increased.



Net Positive Inflow to Fixed Income Funds

Increased uncertainty and perception of risk in recent months caused the transfer of monies from the stock market to fixed income funds, which are viewed as less risky than the equity markets. The last two months have recorded the highest amount of net inflows into fixed income funds since the beginning of 2022. The resulting fluctuations have caused a general decrease in the stock prices of companies which have made equities broadly more attractive.

The increase in the injection of resources by the central bank has caused the interbank market rate as the base interest rate of the economy to move downwards. This has resulted in the reduction of the risk-free interest rate of the economy in recent months.



Considering the point-by-point drop in inflation over the past three months, if the CBI continues to inject resources, we can expect a drop in interest rates in the short term. In this case, it would appear likely that the TSE index would be poised for a lengthy period of increase.

Conclusion

Two significant risk factors, namely the uncertainty regarding the future of the nuclear negotiations and the government's pricing of natural gas, caused the market to continue to decline. The metals, petroleum and chemical sectors contributed the most to the decline of the index during the last month (these are the sectors that have been mostly affected by the aforementioned risks). Conversely, industries that are B2C (Business to Consumer) in nature and whose sales are domestic, registered a positive performance over the last month. Based on the evaluations made on the financial statements of listed companies and the improvement of the profit performance of these companies, the public issuance of the quarterly reports of the companies in the coming weeks could lead to an improvement in sentiment towards the stock market. In addition, the continued reduction in the inflation rate and the subsequent reduction in the interest rate can be an important macro driver for the performance of the stock market in the coming months.

For more information please contact us:
assetmanagement@turquoisepartners.com



Economic Experts' Views on Macroeconomic Variables in 2023-2024

Introduction

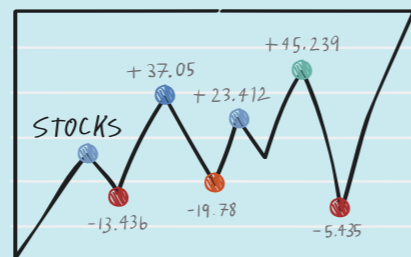
The table presented below, exhibits the views of international organizations on the Iranian and global economies. It forecasts and analyses future changes in macroeconomic indicators based on field research and the opinions of over 40 economic experts from inside and outside Iran (who are members of the Iranian Economic Association or the Iranian Economists Club).

It is clear that the views presented are the opinions of experts on the state of Iran's economy. These opinions may differ depending on factors such as international sanctions, regional unrest, and economic crises. Therefore, the answers of the economic experts have been considered in each variable.



Economic Experts' Views on Macroeconomic Variables in 2023-2024

The statistical sample for the research included more than 40 professors of economics from reputable universities, as well as experts from the Iranian Economic Association and Club.



Opinions of experts on economic issues for 2023

Variable	The most recent information available for the last period	Prediction (an average number suggested by all of the experts)
Economic Growth (Percentage)	Economic growth (including oil) in the first nine months of the previous year - 3.3%	2 - 3 %
Inflation rate - Index of consumer goods and services (Percentage)	Inflation rate of last year - 45.7%	55 - 60 %
Inflation rate - producer price index (Percentage)	The point-to-point inflation rate of the producer in the fall of last year - 40.1%	50 - 55 %
Non-oil exports (Billion dollars)	Non-oil exports last year - 53.2 billion dollars	45 - 50 Billion Dollars
Product import (Billion dollars)	Imports of last year - 59.7 billion dollars	50 - 55 Billion Dollars
Average price of US dollars (Ten Thousand Rials)	The average price of the US dollar last year - 337,000 thousand Rials	550 - 650 Thousand Rials
Total average index of Tehran Stock Exchange (unit)	The total index of the stock market in March of last year - 1.9 million units.	2,300,000 - 3,000,000 unit
Change in the average price of a square meter of residential property in Tehran (Percentage)	Percentage increase in the price of a square meter of residential property in Tehran from January to February of last year - 41.7%	40 - 50 %



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AgriList, with its unique B2B2C conceptual model, profiles all the roles, activities, capabilities, requirements, opportunities and information related to each economic sector in its value chain. All economic operators in that sector can optimize their economic decisions using these facilities.

In addition to being classified, all these data are clustered and placed on the same object. The agricultural economic portal of the country will be launched under the name Agri.Aralist.ir.

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Tel: (021) 2676 7332
 Fax: (021) 2676 7324
 Email: Info@Agri.Aralist
 Araenterprise.com
 Agri.Aralist.ir

Uzbekistan President's Visit; The Aftermath & What's Next



H.E. Bakhodir Abdullayev
Ambassador of Republic of Uzbekistan

Please tell our readers about Uzbekistan, its history, people, art, culture and economy, as well as its natural beauty and tourist attractions.

Uzbekistan has a rich history, which goes as far back as the remote ages. The history of our national statehood is more than 3 thousand years.

On the territory of modern Uzbekistan, civilizations and states arose, people and dynasties reached their greatest glory, great discoveries took place and incredible routes were laid.

If we refer to history, we see that Uzbekistan, located at the crossroads of the Great Silk Road, has long been one of the centers of high civilization and culture. The rich scientific and cultural heritage of our people, ancient scripts and inscriptions, priceless architectural monuments, rare manuscripts; various artifacts are suggestive of the deep roots of the three thousand years of history of our statehood. As you all know well, the torch of science that lit ancient Greece, shone again from the 9th to the 12th century in Central Asia. That period was the era of the first Renaissance in Uzbekistan and it fostered an entire group of celebrated geniuses whose names and works are recognized throughout the world.

With their scientific activity and discoveries, dozens of grand scholars like Muhammad Khorezmi, Abu Rayhon Beruni, Abu Ali ibn Sino, Ahmad Fergani and Mahmud Zamakhshari made a tremendous input into universal progress.

The creation of a great empire by Amir Temur in the 15th century, which was later ruled by his respected descendants, facilitated the second Renaissance in our region. It gave the world outstanding scientists like Kazizoda Rumi, Mirzo Ulugbek, Giyosiddin Koshi, Ali Kushchi, the great poets Lutfi, Sakkoki, Hafiz Khorezmi, Abdurahman Jami, Alisher Navoi and Zahiriddin Muhammad Bobur.

The fame of the historians, Sharafiddin Ali Yazdi, Mirkhond and Khondamir; artists Mahmud Muzakhib and Kamoliddin Behzod; many calligraphers, musicians, musicologists and architects spread around the world.

On August 31, 1991, an unprecedented historical event took place, which marked a turning point in the life and destiny of Uzbekistan. On this day, the Republic of Uzbekistan officially declared its independence.

Since gaining independence, Uzbekistan has gone through a complex path to becoming a new and sovereign state. Independent branches of state power were created, state

institutions were formed, and the foundations for the formation of a civil society were laid within this relatively short period. A lot has been achieved in terms of strengthening the defense capability, establishing the financial and economic systems, restoring historical values and reviving the rich cultural heritage and national identity.

As President Shavkat Mirziyoyev noted, all these became possible "thanks to a resolute will and an enormous potential of our courageous and noble people".

However, time does not stand still, and today Uzbekistan faces new goals and objectives, the achievement of which should further increase the level of people's well-being and contribute to the deepening of democratic reforms in the country. That is why it can be said that the course for large-scale reforms announced by the President and aimed at elevating the country's development to a new, higher level, is an objective necessity and should be considered the most important strategic task.

We can already see the huge positive transformations in almost all aspects of the life of Uzbek's society. The reforms affected the spheres of education, healthcare, law enforcement, social protection, and many others. The President also pays close attention to fighting corruption and enhancing the role of the media.

Due to the activities conducted within the framework of the action strategy, the primary goal of which is to build the New Uzbekistan and create the foundation of the third Renaissance, the living standards of people are growing, the degree of coverage for young people with education is progressing and the system of medical care is improving all over the country.

Thanks to a competent policy, and significant reforms in the financial and monetary sphere, Uzbekistan's cooperation with foreign countries has reached a completely new level. A far-sighted foreign policy has turned Uzbekistan into an active participant in political processes in the region and the world, and reforms in the field of human rights protection, which has recognized by the world community as extremely effective.

In a historically short period, significant results have been achieved in almost all areas, and as follows from the President's statements, this is only the beginning of a long journey to reform the state according to the interests of the nation.

There is a tremendous historical affinity between Iran and Uzbekistan. Please tell us about that and how it can be leveraged today to foster better people-to-people and business-to-business relations.

The history of Uzbek-Iranian relations goes back to the distant past. The ancient cultural and historical ties between the nations serve as a basis for the development of Uzbek-Iranian relations.

It is also important to mention that tourists often notice the influence of Persian architecture in some historical buildings in Uzbekistan. Also, there are some Timurid monuments in Iran that remind unique architecture of the Timurid Empire, such as Gawharshad Mosque in Mashhad. It indicates that historically, these countries had close relations.



After Uzbekistan gained independence, relations between the countries received a new meaning and began to develop consistently. The Islamic Republic of Iran recognized the independence of Uzbekistan on 25 December 1991. Diplomatic relations between the two countries were established on May 10, 1992.

The leaders of the two countries have a firm will to raise the level of relations according to the requirements of the time. Thanks to the political will of the leaders of the two states, in recent years, Uzbek-Iranian relations have gained a new dynamic of development. In the trades and economics a steady increase in mutual trade turnover is being observed. I believe that wider use of transport and transit communications will help intensify business contacts and increase freight traffic. Also, the exchange of experience in areas such as innovation, nanotechnology and technology transfer will contribute to the development of the two countries. The increase in regular flights between the two countries will contribute to the growth of business contacts and mutual tourist flows.

If you were to summarize the state of affairs between Iran and Uzbekistan, in terms of political relations as well as trade activities and cultural exchanges, how would you describe it?

Each high-level visit is an important milestone in the development of bilateral relations. The meetings of the President of the Republic of Uzbekistan Shavkat Mirziyoyev with the President of the Islamic Republic of Iran, Ebrahim Raisi, gave a powerful impetus to deepening comprehensive cooperation between the two countries.

On September 14-16, 2022, the President of the Islamic Republic of Iran, Ebrahim Raisi, paid an official visit to Uzbekistan. The visit of Ebrahim Raisi to Uzbekistan was of a historical nature, 2022 marked the 30th anniversary of the establishment of diplomatic ties between the two countries. On June 18 of 2023, the President of the Republic of Uzbekistan Shavkat Mirziyoyev visited Iran. This historic visit was the first visit of the President of Uzbekistan to Iran in 20 years.

Regular high-level talks testify to the interest and readiness of the two countries to strengthen and develop various areas of the bilateral agenda, and create a solid foundation for Uzbek-Iranian cooperation. In recent years, many official visits of representatives of the two countries have taken place, which contributed to



Two countries have taken place, which contributed to the strengthening and development of friendship between Uzbekistan and Iran. Constructive dialogue is being conducted between the foreign ministries and close interaction between the parliaments of the two countries.

I am delighted that I had the opportunity to take an active part in such unforgettable historical processes.

Please tell us about the trade volume between Iran and Uzbekistan today. What products and services are still being exchanged, if any?

The expansion of trade and economic ties is one of the key priorities of bilateral relations.

Last year, the trade turnover between Iran and Uzbekistan exceeded \$450 million. The main export products of Uzbekistan to the Islamic Republic of Iran are yarn, mineral fertilizer and chemical fiber. Imports consist of building materials, electromechanical equipment, fruits, dried fruits and plastic products.

A number of relevant works are being carried out to further increase the volume of mutual trade between the two countries.

In particular, on May 31, 2023 the 15th meeting of the Intergovernmental Commission on Trade, Economic, Scientific and Technical Cooperation between the Republic of Uzbekistan and the Islamic Republic of Iran was held in Tashkent. On July 17, 2023, a business forum was held in Tehran with the participation of more than 200 businessmen from Uzbekistan and Iran.



Uzbekistan President's Visit; The Aftermath & What's Next



How is the business environment in Uzbekistan? What incentives exist for foreign investors?

Over the past few years, the President of the Republic of Uzbekistan Shavkat Mirziyoyev, Uzbekistan has gone through an accelerated transformation of the economy and is increasingly featured in the international community as one of the symbols of openness, innovation and determination in removing various barriers to business and investment.

In particular, the country has achieved great progress in creating the most favorable fiscal system in the region. Thus, the income of foreign investors in the form of dividends on shares are exempt from income tax for a period of three years, for them the income tax rate has been reduced from 20 to 12 percent.

Another important step has been taken to liberalize foreign trades. In particular, customs duties on raw materials and goods of more than 7,000 items have been canceled for investors. A simplified procedure for processing in the customs territory has been introduced.

To promptly resolve issues of investment and establishing a direct dialogue between investors and the head of Uzbekistan, the Council of Foreign Investors began its work. For foreign investors, the conditions for acquiring real estate, entry-exit and residence in Uzbekistan have been radically simplified.

Currently, accelerated work is being carried out on Uzbekistan's entry into the World Trade Organization. This step will raise the country's foreign trade activity to a new level and allow it to develop new markets.

As the President of the Republic of Uzbekistan Shavkat Mirziyoyev noted in his speech at the opening of the second Tashkent International Investment Forum, "the requirements of the WTO are fully consistent with the essence of our reforms, and we are aiming to join this authoritative organization as soon as possible." Thus, the work on negotiating with member countries and harmonizing national legislation with the rules and regulations of the organization are in the active phase.

Important measures have been taken to ensure the protection of the rights and interests of investors. According to the new Constitution of Uzbekistan, for the first time, the state assumes obligations to ensure a favorable investment



and business climate, the inviolability of property, the development of market relations, the creation of conditions for fair competition, and the independence of the judiciary. On July 21, 2023, the President of the Republic of Uzbekistan Shavkat Mirziyoyev signed the Decree "On measures for the effective organization of public administration in the field of investment, industry and trade within the framework of administrative reforms".

According to the document, each investor is assigned investment managers in the Ministry of Investments, Industry and Trade of Uzbekistan, who accompany investors at all stages, up to the launch of projects (obtaining land, connecting to infrastructure, obtaining permits, etc.). In terms of status, investment managers are equated with the head of a department of a ministry.

The Ministry of Investments, Industry and Trade of Uzbekistan has been given the authority to:

- Submission of binding instructions to state bodies and local authorities to eliminate the identified shortcomings;
- To meet and see off investors in the VIP-lounge of international airports at the expense of its non-budgetary funds.

Also created:

- Under the Ministry of Investments, Industry and Trade - Center for Analysis of Industry and Foreign Markets;
- In the system of the Agency for Attracting Foreign Investments - the Center for Investors;
- In the structure of the Export Promotion Agency - the Center of Exporters;
- Under the Fund for Reconstruction and Development - the Industrial Development Fund;

At the expense of the Fund:

Loans are allocated, including working capital in foreign and national currencies, for industrial projects for the production of new types of high-tech products and the expansion of existing capacities;

Loans are allocated for the purchase and lease of buildings and structures based on the Industrial Mortgage system to increase production volumes; part of the costs associated with marketing research projects aimed at mastering the production of demanded products, as well as the development of project documentation, attracting foreign specialists and



Certification of products, is financed; Assistance is provided to industrial enterprises in the form of participation in their authorized capital, the acquisition of property, the provision of loans in national and foreign currencies, and other forms.

From December 1, 2023, the E-certificate information system integrated into the Single Window customs information system will be launched, providing the opportunity to obtain information on the application of benefits of the GSP + system, free choice of testing laboratories (including in the fields of veterinary medicine, plant quarantine, sanitation and epidemiology), electronic registration of test reports.

Without a doubt, these measures will serve to open up new business opportunities in Uzbekistan. In our country, investors will find everything they need for business - peace, stability, a favorable investment climate and reliable guarantees.

What sectors in your opinion represent the biggest opportunities in Uzbekistan for Iranian companies and investors? What projects currently are available for investment/cooperation?

Currently there are over 500 joint Iranian-Uzbek companies in Uzbekistan, 150 of which are established with 100% Iranian capital. The priority areas of cooperation include industry and agriculture. Today "Golrang Industrial Group", "Pooya Polymer", "Kalleh", "Mimas", "AMS Industrial Group", "Exir Nano Sina Co." and many other leading Iranian companies cooperate with Uzbekistan.

Uzbekistan has a preferential trade agreement with the EU. Please tell us more about them.

Certainly, the New Uzbekistan works closely with international financial organizations, foreign countries and leading companies in the implementation of the high milestones set before it.

One of the main directions of our reforms is the expansion of trade-economic and investment cooperation with all partner countries.

Our trade with the European Union is growing steadily thanks to the GSP+ beneficiary status granted to Uzbekistan. While last year the trade turnover increased by 20 percent, since the beginning of this year, we are witnessing almost 70 percent growth. The portfolio of promising projects



to create high-tech production and new jobs with leading European companies and banks exceed to 20 billion euros.

His Excellency President Mirziyoyev visited Iran last month. Please tell us about the outcome. What agreements/MOUs were signed and what was achieved as a result.

On June 18th, 2023 the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, arrived in Tehran on an official visit at the invitation of the President of the Islamic Republic of Iran, Ebrahim Raisi.

During the visit, the Uzbek leader held narrow and extended negotiations with Ebrahim Raisi, as well as a meeting with the country's Supreme Leader, Ayatollah Sayyid Ali Khamenei.

Following the summit talks, a solid package of intergovernmental and interagency agreements, on the most relevant areas of bilateral cooperation, was signed. Shavkat Mirziyoyev and Ebrahim Raisi signed a Joint declaration on strengthening cooperation between the two countries.

In addition, 15 documents at governmental, ministerial and regional levels were adopted during the visit. These include an intergovernmental agreement on preferential trade, a cooperation program between the Uzbek Agency for Technical Regulation and the Iran National Standards Organization, and an action plan on cooperation in technology and innovation.

Memoranda of cooperation was adopted on the establishment of joint free economic zones, pharmaceuticals, transport and transit.

A Joint Action Plan on Sports, a Memorandum of Understanding of Dispute Resolution and Arbitration, an Optional Agreement on Cooperation in Reinsurance and other documents were also signed.

Iran-Oman Joint Chamber of Commerce; Bilateral Trade and Investment Potential

By: Reza Taeb



Arezoo Jamali Nazari

Arezoo Jamali Nazari, the Director of the Provinces of Iran's Chamber of Commerce and the Secretary General of the Iran-Oman Chamber of Commerce. She has been working as the Secretary of the Joint Chamber for 6 years. She has a Ph.D. in Business Management from Shahid Beheshti University and extensive executive experience in investment, finance, and international banking, as evidenced by her previous role as the International Vice President of the Capital Bank. She is also a lecturer in Strategic Management and Behavioural Management at Shahid Beheshti University and Islamic Azad University.

To begin, could you please provide an overview of the activities of the chambers of commerce, with a specific focus on the Chamber of Commerce of Iran and Oman? (The establishment date, approach and mission, the role of the chamber in establishing business relations with Oman, etc.)

The Iran-Oman Joint Chamber of Commerce was established in 2005 to regulate economic and commercial relations between the private sectors of Iran and Oman. The Chamber is an official institution that facilitates trades, boosts economic exchanges, encourages joint investments, and enhances access to secondary markets and re-exports through Oman. It also promotes Iran's economic potential and competitive advantages.

In 2014, the Chamber was upgraded to the Joint Chamber with the approval of relevant supervisory councils. As an independent legal entity, the Joint Chamber collaborates with the Iranian Chamber of Commerce to develop strategies for business relations and increase mutual investments between the private sectors of both countries.

How many Iranian and Omani companies are currently registered in the Iran and Oman Chamber of Commerce? (Please explain their fields of activity, potentials and capabilities, etc.)

The Iran-Oman Joint Chamber of Commerce is a legally recognized and autonomous organization with over 350 active members from reputable and large companies. The Chamber has a governing committee that is elected by the members. All business interactions between the private sectors of Iran and Oman are conducted through the Joint Chamber.

Companies registered in the Iran-Oman Joint Chamber include large and medium-sized manufacturing and industrial companies in a variety of sectors, such as food processing, tile production, ceramics, plumbing components, electrical appliances, cement production, other construction materials, oil and gas refining, petrochemicals, steel manufacturing, mining operations, international transportation services and foreign trade activities.

What is your assessment of the current economic, diplomatic, and cultural relations between Iran and Oman? How do you see the two countries in terms of their overall relationship?

Iran and Oman have been having a long-standing political relationship, with the government of Oman maintaining a consistent approach towards Iran throughout history, regardless of regime change or government type. However, despite the strong political ties, the level of economic relations between the two countries has not always been as strong. In 2012, when the Iran-Oman Joint Chamber of Commerce was formed, the trade volume between the two countries was only \$221 million. Company registration was difficult, there were no direct air or sea links, and the necessary infrastructure for commercial relations was lacking.



But with the formation of the joint chamber of Iran and Oman, identification of obstacles and follow-up for the demands of the private sector were put on the agenda so that last year, the volume of trade between the two countries reached the highest level in the history of trade relations between Iran and Oman.

In the past year, according to the established infrastructure, with the support of the two governments and the trade development organization for the private sector, the sincere efforts and cooperation of the Oman Chamber of Commerce and the Iran-Oman Joint Chamber of Commerce as the custodians of the private sector of the two countries, the volume of commercial exchanges between Iran and Oman increased from 221 million dollars in 2013 to 1.8 billion dollars in 2022 and the volume of Iran's exports to Oman went from 146 million dollars in 2013 to 1.1 billion dollars in 2022. The volume of Iran's imports from Oman increased from 75 million dollars in 2013 to 800 million dollars in 2022. The annual volume of trade between the two countries reached an unprecedented record with a growth of 41% in 2022 compared to 2021. In the first quarter of this year, the value of Iran's exports to Oman was 270 million

dollars, while the value of imports was 1.7 billion dollars, which has faced favorable growth compared to last year.

Also, due to Oman's free trade agreement with 16 Arab-African countries, America, Singapore and the incentives provided by Oman's free zones for foreign investors, today we can see that Oman has become a base for the re-export of Iranian goods by creating only 30% of the final added value of the goods in Oman and obtaining Oman's origin certificate.

Please explain the volume of trade between Iran and Oman, as well as its overall trend in recent years. Additionally, please explain what goods and services are being exchanged.

The following goods are likely to be exported to Oman: food, agricultural products, building materials, cement and clinker, metal ores, electrical and electronic equipment, medical devices and disposable hospital supplies, cleaning products and cellulose products. Efforts have been made to attract medical tourists from Oman. There is also potential for the export of technical and engineering services in the form of build-own-operate (BOO) and build-operate-transfer (BOT) projects, particularly in the mining, construction, and solar energy sectors in Oman.

Do sanctions pose any challenges to business exchanges between the economic and commercial players of Iran and Oman? Additionally, what is your opinion on the lack of information and data about these countries?

Finally, what role does the Chamber of Commerce play in addressing these challenges?

The main challenges in trade relations between the two countries are:

1. Lack of banking relations between the two countries
2. Iranian contractors are unable to participate in Oman tenders because they are banned from the international banking system. This means that they cannot obtain bank guarantees, which are essential for bidding on government contracts.
3. The high costs of direct sea transportation between the two countries due to the lack of government subsidies

What events have been prepared by the joint Chamber of Commerce of Iran and Oman? Please indicate their topics and venues.

The joint chamber, as the trustee of Iran's private sector in Oman and a member-oriented institution, in line with the responsibilities set by the legislator, has provided facilities for economic activists, some of these services include:

- Access to business/tax/labor laws and regulations in Oman, laws and regulations governing Oman's free zones, how to register a company in Oman, laws governing foreign investment in Oman and other laws related to business and investment in Oman
- Helping to facilitate the registration of commercial companies or the construction of production and investment units in Oman
- Providing a directory of Oman commercial companies in the field of various activities
- Playing an effective role in resolving commercial disputes



with the cooperation of Iran Chamber of Commerce Arbitration Centre

- Providing facilities for export units to have an export insurance policy, as well as financial validation of Omani partners.
- Providing information on all specialized exhibitions in Oman, with domestic and Omani presenters, and enjoying special discounts for members of the chamber to rent booths in specialized exhibitions in Oman.
- Sending and accepting business delegations and holding business meetings (B2B) between the economic players of the private sector of the two countries
- Holding specialized seminars and workshops related to trade with Oman
- Providing specialized advice in the fields of business/transportation/investment and setting up business contracts

Could you please explain the steps involved in becoming a member of the Iran-Oman Chamber of Commerce? What services do members receive?

All economic practitioners in the nation have the opportunity to join the Iran-Oman joint chamber. By filling out the membership applications and presenting valid identification papers, they can effortlessly acquire membership and access all the facilities offered by the joint chamber.

The cooperation between Iran and Oman outlines many areas. Can you share some examples of the most important ones?

As you know, Oman has received a lot of media attention in recent years, which has led to some people taking advantage of some businessmen's profits. Oman is a country with high costs, so it is important for all businesses entering the Omani market to have a well-defined business plan and seek the necessary guidance.

What are the factors that attract investors to Oman? Is Oman's commercial-administrative bureaucracy seen as engaging by investors?

Oman has free trade agreements with 16 Arab-African countries, the United States, and Singapore. Additionally, the ability to register a company in Oman with 100% foreign ownership, convenient access to open waters, a unique political relationship, Oman's development program, and the government's support for foreign investors are important factors.

Spotlight on UN 2023 Water Conference With the Presence of Tajikistan



The UN Water Conference 2023 was held in New York on March 22-24. The conference was co-hosted by the Republic of Tajikistan and the Kingdom of the Netherlands. The President of Tajikistan, Emomali Rahmon, delivered a speech at the conference, in which he stressed the importance of water for sustainable development. He also announced that Tajikistan will host a high-level international conference on the preservation of glaciers in 2025. Other speakers at the conference included the King of the Netherlands, UN Secretary-General Antonio Guterres, and the President of the UN General Assembly. The conference discussed the results of the chairmanship of Tajikistan and the Netherlands, as well as constructive initiatives of the President of Tajikistan on water issues and climate.

President Rahmon noted that water resources are facing many challenges, including climate change, population growth, and water-borne natural disasters. He also highlighted the importance of water for food security, green power, and nature sustainability. President Rahmon called for increased efforts to address these challenges and achieve the water-related development goals.

President Rahmon proposed to arrange the next United Nations Water Conference in Tajikistan at the end of the Decade of Action in 2028. He also proposed to develop and implement specific national, regional, and international programs for the

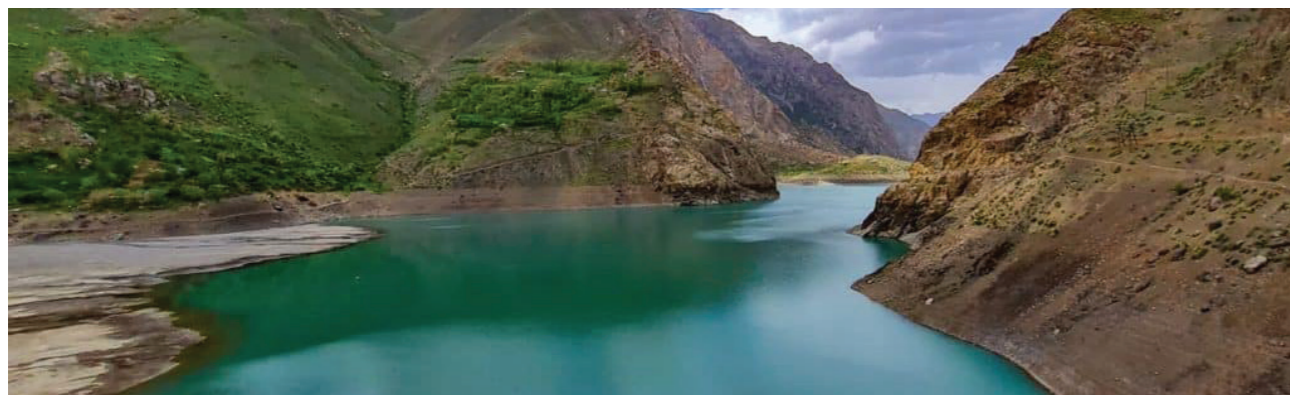


preservation and effective use of all water resources. President Rahmon concluded by saying that he hopes they will achieve the agreed water-related international goals with collective efforts.

In his speech, President Rahmon also stressed the importance of glaciers for the global water cycle and the need to protect them from the effects of climate change. He said that glaciers are "the world's water towers", providing water for drinking, irrigation, and hydroelectric power. He also warned that the melting of glaciers, is a serious threat to the livelihoods of millions of people around the world. He called on the international community to unite efforts and prevent the negative impact of climate change on glaciers. He said that Tajikistan is committed to this goal and is willing to share its experience in glacier preservation. He also announced that Tajikistan will host the International Conference on the Preservation of Glaciers in 2025.

The side event was attended by other high-level officials, including the UN Secretary-General Antonio Guterres, President of Bolivia Luis Alberto Arce, and Secretary-General of the International Meteorological Organization Peteri Taalas. King Willem-Alexander of the Netherlands, also took part in the event. The event highlighted the importance of glaciers to the global water cycle and the need to protect them from the effects of climate change. It also provided an opportunity for the international community to discuss how to best address this challenge.

The side event was a success in raising awareness about the importance of glaciers and the need to protect them. It also served as a starting point for the international community to develop a roadmap for the preservation of glaciers in the years to come.



The Minister of Water Resources and Energy of Tajikistan begins by thanking the event organizers and partners, and then he provides some background on the IYGP.

He noted that the melting of glaciers is a serious problem that is becoming increasingly urgent, and that the IYGP is an opportunity to raise awareness about this issue and unite efforts to address it. He then goes on to discuss the specific goals of the IYGP. These goals include:

- Promoting research and monitoring of glaciers
- Developing strategies to mitigate the impacts of glacier melt
- Building resilience to the impacts of glacier melt



The Minister also noted that the IYGP will be accompanied by a number of events and initiatives, including a special fund to support activities related to glacier preservation, an International Conference on Glaciers' Preservation in Tajikistan in 2025, and the establishment of March 21 as the World Day of Glaciers. The Minister concludes by calling for international cooperation in the implementation of the IYGP. He believes that by

working together, they can make a significant difference in addressing this important issue. The Minister mentions that the IYGP is aligned with the UN Secretary-General's initiative on early warning systems.

This matter is significant, because early warning systems can help mitigate the impacts of glacier melt by providing information about potential hazards and risks. The Minister also mentions that the IYGP will be supported by a number of organizations, including UNESCO, the World Meteorological Organization, the World Bank, and the International Atomic Energy Agency.

This shows that there is a strong international commitment to addressing the issue of glacier melt. Overall, the Minister's speech was a clear and concise overview of the IYGP. He provided a good understanding of the goals of the initiative, as well as the specific activities and events that will be taking place. The speech also highlighted the importance of international cooperation in addressing the issue of glacier melt.

The President of Tajikistan, Emomali Rahmon, in an interview with the UNTV correspondent on the sidelines of the United Nations Water Conference - 2023. He addressed the importance of the Conference and the need for the international community to take action about the water crisis. He also highlighted Tajikistan's commitment to water issues and its history of leading global initiatives on water. President Rahmon said that the Conference is an opportunity to

"change our approach to the most important source of life, i.e. water resources, and start managing them in a new and efficient way through innovative methods." He called for the adoption of "innovative and executive commitments and actions" to address the water crisis. President Rahmon also spoke about Tajikistan's initiative to declare 2025 as the International Year of Glaciers' Preservation. He said that this initiative is aimed at drawing attention to the importance

Spotlight on UN 2023 Water Conference With the Presence of Tajikistan

of glaciers as a source of fresh water and to unite efforts to reduce the negative impact of global processes on the melting of glaciers. The President of Tajikistan is proud that his country was able to host the UN Water Conference, and he believes that the conference was a success. He said that the main experience they gained from the process was the right and targeted review of the water issue, which brought all the countries of the world together in a constructive dialogue. He also emphasized the importance of uniting the efforts of the international communities and organizations in order to achieve the expected outcomes. The President also had a message for the international community. He said that water is a global issue, and that no country is immune to water problems. He believes that reliable advanced mechanisms for water supply and effective management of water-related issues should be developed and implemented at the national, regional, and global levels. He also said that water can play an effective role as a binding driver in relations between states. The President concluded the interview by saying that Tajikistan is committed to working with the international community to address the water crisis and to ensure that everyone has access to safe water. Here are some of the key points from the interview:



- The United Nations Water Conference is an important opportunity to address the water crisis.
- The international community needs to take action to address the water crisis.
- Tajikistan is committed to water issues and has a history of leading global initiatives on water.
- The International Year of Glaciers' Preservation is an important initiative to draw attention to the importance of glaciers as a source of fresh water.
- Tajikistan is committed to working with the international community to address the water crisis and to ensure that everyone has access to safe water.
- Water resources are under huge pressure from climate change, urbanization, population growth, and industrialization.
- Despite some progress, our actions and efforts need to be quadrupled to attain SDG6 and other water-related goals.
- It is time to establish a dedicated unit within the UN system on water and appoint a UN Special Envoy.
- Regular meetings are needed, perhaps every two to three years, to review and analyze water-related actions and commitments.
- Considering the interlinkages of water with other SDGs, water should be integrated in other global agendas and high-level gatherings.

The President gave a closing speech at the conference. He emphasized that water is the source of all living things in the world and the power uniting the people of the planet. He called on all to be united around water and not to miss this opportunity to speed up the further implementation of the sixth Sustainable Development Goal and other goals related to water. The President of Tajikistan also presented the symbolic box of the Water Action Agenda, with the commitment of all countries to the Secretary General of the United Nations and the President of the UN General Assembly. The conference was a success and resulted in the development of the Water Action Agenda, which outlines a set of commitments to accelerate actions in the field of water. The agenda will be discussed in the three upcoming key meetings of the United Nations, i.e. the Sustainable Development Goals Summit-2023, the Summit of the Future-2024 and the World Social Summit-2025. The President of Tajikistan invited all participants to the next Conference on the implementation of the International Water Decade, which will be held in Dushanbe, in 2024. The President's working visit to New York, United States, which took place from March 20-24, came to an end as the President left for his homeland in the afternoon of March 24th. Here are some of the key takeaways from the conference:

- Water is a vital resource that unites all people on the planet.
 - We need to change the way we understand, value, and manage water.
 - The Water Action Agenda is a set of commitments to accelerate actions in the field of water.
 - The agenda will be discussed in the three upcoming key meetings of the United Nations.
 - The next Conference on the implementation of the International Water Decade will be held in Dushanbe, in 2024.
- Overall, The UN 2023 Water Conference was held in New York City from March 22-24, 2023. The conference brought together thousands of people from around the world to discuss the importance of water and to develop a new water management vision for the future. The conference highlighted the urgency of addressing water challenges, which are interconnected with other issues such as food, health, climate, and nature. The conference also emphasized the need for a new water management approach that is inclusive, cross-sectoral, and action-oriented. The Water Action Agenda, which was adopted at the conference, outlines a number of commitments to address water challenges. These commitments include strengthening the nexus approach for water with food, health, in cities and rural areas, as well as energy and climate; making water the driver for sustainable development; and using public-private partnerships to drive innovation in water management. The conference concluded with a call to action for all stakeholders to work together to implement the Water Action Agenda and to ensure that water is managed sustainably for the benefit of all. Here are some of the key points:
- The water challenges are interconnected with other issues such as food, health, climate, and nature.
 - A new water management vision is needed for the period after 2030.
 - The Water Action Agenda outlines a number of commitments to address water challenges.
 - All stakeholders need to work together to implement the Water Action Agenda.

AI Factoid

\$ 10,000,000,000
The amount that has been invested in OpenAI by software giant Microsoft

As part of a partnership that made Microsoft Azure Open AI's exclusive cloud provider, Microsoft announced a new multiyear, multibillion-dollar investment in January 2023 state of OpenAI : Analyst Brad Sills says Microsoft is looking to reinvent its Bing search engine by integrating ChatGPT and its own Prometheus AI model. Sills says Bing is unlikely to gain meaningful market share from Google, but Microsoft is staying ahead of the curve in AI-enabled enterprise services. Bank of America has a "buy" rating and \$340 price target for MSFT stock, which closed at \$314 on May 17.



"Civilization Destruction,"
Elon Musk



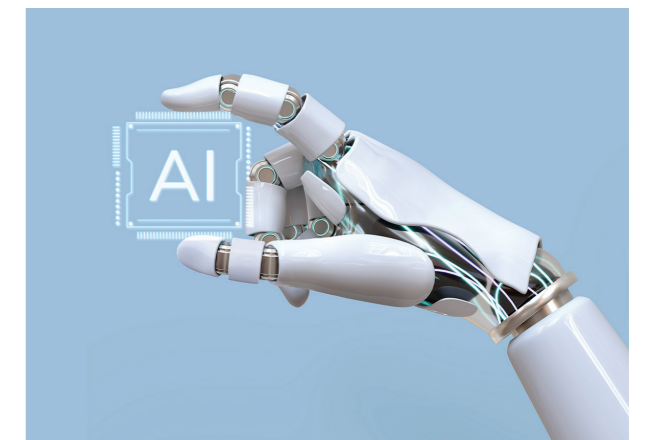
Angered by the development of artificial intelligence, Elon put his foot down and warned in an interview that artificial intelligence could lead to catastrophic events even as he remains deeply involved in the growth of AI through his many companies, including a rumored new venture.

42%
the percentage of organizations using AI

35% or more than one in three organizations reported that they were using artificial intelligence technology in one way or another in their businesses in the year 2022, (IBM, 2022). This was 7 percentage points higher than in 2021.



241,800,000,000
The expected value of the global Artificial Intelligence industry market in 2023



By 2030, the global AI market is set to be worth over \$1.5 trillion, marking an impressive Compound Annual Growth Rate (CAGR) of 38.1 percent from 2022 to 2030.



Ali Sajwani
Managing Director of Operations and Technology at DAMAC Properties

The Future of Real Estate According to Damac

Ali Sajwani is a successful Emirati businessman, entrepreneur and an Executive Director at DAMAC Properties, a global multi-billion-dollar real estate development company.

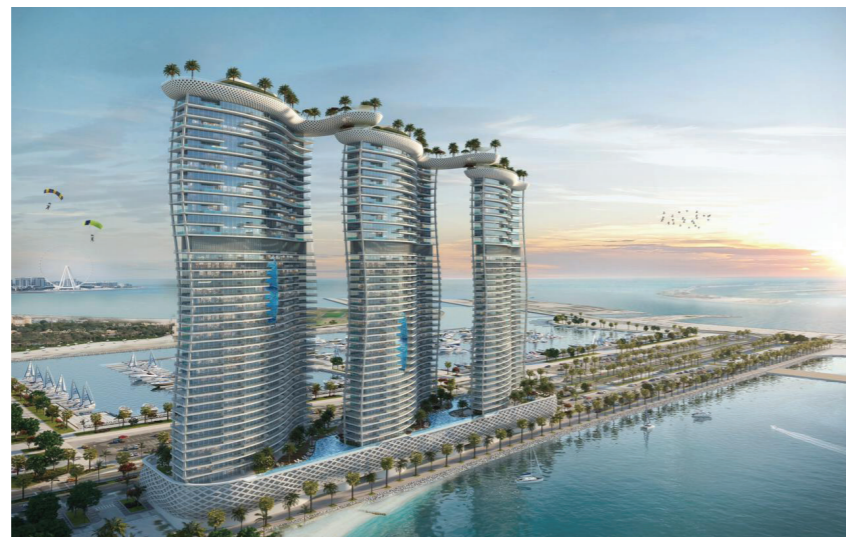
As Managing Director, Operations and Technology for DAMAC, Ali is responsible for enhancing the organization's overall operational effectiveness and for driving the adoption and deployment of cutting-edge technology throughout the company. In his role, Ali has been instrumental in driving a culture of innovation across the company to streamline its processes across multiple departments.

Ali has played a key role in the transformation of DAMAC into a leading international property company and is now focused on its international growth and establishing the brand as a major developer of global resorts.

At the intersection of entrepreneurship, innovation, and sustainability, Ali embraces his visionary spirit to leave his mark in the real estate industry. Through his entrepreneurial leadership, Ali strives to inspire positive change, foster cross-cultural collaboration, and pioneer ground-breaking solutions that harmonize human progress with environmental responsibility. Having grown up by the water, Ali is passionate about the ocean, its ecosystem and marine life and considers himself a curious traveller who enjoys discovering different cultures and visiting exotic and remote destinations. In his down time, he enjoys Diving, Skiing and spending time with his family.

began my journey from the ground up. I would be at construction sites by 8 am, wearing construction boots and a hard hat, reporting to a project manager. Punctuality was crucial, as my father would be notified if I arrived even a few minutes late, and I would receive a phone call from him enquiring why I had reached work late.

For the first two years, I worked at construction sites, gaining valuable hands-on experience. Then, in 2016, I took on the role of leading the sales team, where I was responsible for following up with over 250 leads daily. Afterward, I took charge of technology, CRM, and handovers, allowing me to gain insight into different aspects of the business. This experience enabled me to establish a tele-sales team and understand the



Thank you so much for giving Trends this exclusive interview despite your busy schedule. We very much appreciate it. Please tell us about yourself; your background and how you got into the family business which is now a premier real estate developer in the region? What is your current role and responsibilities within Damac?

I have been part of the family business from a very young age, starting at just 13 years old, long before I even graduated from Northeastern University. I used to spend my weekends at the office, immersing myself in the business world. This got me to read balance sheets, understand gross margins, valuation metrics, and much more. In 2014, I officially joined DAMAC and

seamless flow of leads from digital marketing to tele-sales, and finally to the sales team. Over time, my responsibilities expanded, and I currently hold the position of Managing Director of Operations and Technology.

My sister also plays a vital role as the Managing Director of Sales and Development, and together we work closely as a team.

The early exposure and discipline instilled by our father helped us develop a strong sense of responsibility and a comprehensive understanding of every aspect of our family business. By starting from the ground up and working in various departments, I carved out my path within DAMAC, allowing me to contribute significantly to its success and growth.

Dubai's luxury real estate segment is one of the hottest in the world right now, attracting unprecedented number of ultra-rich buyers and investors. Isn't that at the cost of more affordable properties in the city, with developers competing in that lucrative segment, neglecting the other?

The luxury real estate segment in Dubai is undoubtedly experiencing immense growth and attracting a significant number of ultra-rich buyers and investors worldwide. This boom in the luxury market has been instrumental in transforming Dubai from a regional city to a global city, particularly after the way COVID pandemic has been handled and that garnered international attention and trust. As a real estate developer, we identified an interesting trend in the market - the increasing demand for luxury branded residences. Seeing this opportunity, we introduced the concept for branded residences with the launch of Cavalli Tower, the first-ever branded Cavalli tower in the world.

However, we do not believe that the success of the luxury segment comes at the cost of neglecting more affordable properties. On the contrary, the mid-market segment in Dubai has been experiencing rapid growth in parallel with the luxury market. Areas like Business Bay for instance have seen a remarkable rise in value, increasing by 50% - 60% over the past three years.

In addition, global events, such as the unfortunate war in Ukraine have led many families to seek a safer environment to continue their lives. Dubai, being a secure and attractive destination, has become the perfect choice for these families, leading to an increasing demand for new homes in the mid-market segment.

We anticipate that both segments will continue to thrive in the coming years, with Dubai's appeal as a safe and desirable location attracting more families and investors alike.

DAMAC



Many believed that Dubai's real estate market had reached its peak (in terms of pricing) and that we have now entered a bubble that can burst at some point.

What are your thoughts on that? Do you see a correction coming any time soon? Why/Why not?

While the real estate market in Dubai has indeed experienced cycles of boom before, there's a notable difference this time around.

As part of my responsibilities as the Managing Director of Operations and Technology, I oversee the collections department, which has historically dealt with default rates of around 30%. This meant a significant proportion of customers were unable to complete their transactions, indicating a higher presence of speculative buyers in the past.

In the current market, we have observed a remarkable decline in default rates, now standing below 7%. This is a critical indicator that the type of people purchasing properties today are not simply speculators seeking quick profits. They show genuine interest in making Dubai their home for the long term. This trend signifies a healthy market with strong underlying demand.

So, we do believe a correction will happen eventually; it's normal for a market to slow down for a bit. However, we believe this market boom and cycle are different from all the previous ones.

Among other things you're in charge of Damac's Technology strategy and projects. Please tell us more about that. Are key IT systems within your organization (such as ERP, CRM etc.) proprietary/ developed inhouse, outsourced or do you use solutions developed by international solution providers (such as SAP, Salesforce.com etc.)?

At DAMAC, we recognise the significant impact of technology and digitalisation on our competitiveness, agility, and customer-centric approach.

Since it is my job to oversee the implementation of our technology strategy and projects, I ensure that we stay at the forefront of digital transformation in the real estate industry. We have introduced various platforms and programs to enhance customer engagement and streamline our operations.

One of our customised platforms is the DAMAC Living App, which has been instrumental in facilitating over 25,000 owners and 15,000 sales registrations and bookings, providing seamless services to our customers. Additionally, we have introduced DAMAC Agents, a platform designed to empower brokers with real-time information and actions, facilitating sales and improving their efficiency. To further streamline our internal processes and collaboration, we have implemented DAMAC CENTRAL, a one-stop shop portfolio of solutions that centralises all collaborations and reporting among departments and staff.

In terms of CRM and sales, we have leveraged the capabilities of Salesforce, a leading international solution provider, to empower our team and enhance customer relationships. While driving sales is essential, our focus on technology extends beyond that. We are committed to using technology to optimise our business operations. To achieve this, we have implemented Oracle Fusion to upgrade our legacy systems, ensuring a seamless flow of information and data.

Moreover, we were early adopters of digital tools and experiences, offering digital twins and metaverse experiences of our properties back in 2020. We utilise digital brochures, 3D tours, and walk-throughs to showcase our properties, contributing to over 5% of our sales.

Looking ahead, we are taking technology to the next level with the development of a new e-commerce platform. Our aim is to launch this platform by Q4 2023 to Q1 2024, providing customers with a complete digital experience where they can purchase real estate properties as easily as buying products from Amazon online.

At DAMAC, technology plays a pivotal role in driving innovation, enhancing customer experiences, and streamlining our business processes. We remain committed to staying ahead of the curve and embracing technology to meet the evolving needs of our customers and the real estate industry as a whole.

Everything seems to be (or will eventually be) impacted by Artificial Intelligence. How do you think AI will change the real estate business, from design to implementation and even sales and marketing? Does Damac have an AI strategy and if so, what are the highlights if you can share with us?

We integrated Artificial Intelligence at DAMAC as soon as we started realising the potential of what it can do for us. We have encouraged our employees to use ChatGPT in their daily operations as it drastically helps with time management while ensuring effective results. Not only that, but we are also integrating several kinds of Generative AI to assist us with copywriting



The Future of Real Estate According to Damac



We are also exploring the integration of AI in our Chabot to efficiently respond to our clients and customers, providing them with the fastest and best assistance they need. At DAMAC, we continuously strive to innovate and adapt to the most emerging technologies.

DAMAC is a family-run enterprise, with all your siblings holding important positions. However, it's estimated that only 30% of family businesses successfully transition to the second generation. Why do you think that is, and how do you see the future of DAMAC avoiding this statistic?

It is true that we are a family-run business, but I believe that one of the main reasons why a significant number of family businesses fail to transition to the second generation is that the younger generation is often not actively involved in the family business from an early age, unlike us. I have observed that in many family

materials, landscape designs, as well as creative and marketing materials used externally on our social media platforms.

For example, when launching a new development, we often promote high-quality marketing video materials that require the inclusion of model forms, incurring significant costs. However, with the capabilities of Artificial Intelligence and Generative AI, we visualise the suitable model for our new development and request certain software to create her for us in seconds.

businesses in the region, those who graduate from universities and step into managerial roles within their family enterprises end up depending heavily on employees without having a comprehensive understanding of the business's intricacies.

However, at DAMAC, it is different. Our family business values, and vision have been instilled in us from a very young age. Our father, Hussain Sajwani, involved us in business discussions during family meals and sought our opinions and insights. We've deeply understood all the aspects of the

business, from products to pricing and beyond, prior to our joining the company. We actively participated in events and launches, sharing our knowledge and insights with others. Another crucial aspect of a successful family business transition is transforming it into a global organization.

As the Managing Director of operations, strategy, and technology, my focus has been on turning DAMAC into a global organization with streamlined processes that allow us to operate as a corporation and focus on overall growth.

The transformation began with a focus on the Finance department and then extended to the CRM, sales, and Technology departments. Our goal is to eliminate bureaucracy, introduce governance and efficient processes, and streamline multiple procedures to ensure consistent growth.

This transformation has necessitated a cultural shift, one of the most challenging tasks in any company. By involving the younger generation early on and adopting a global organizational approach, we are confident in avoiding the statistics associated with family business transition and ensuring a successful future for DAMAC.

What core values do you believe are essential for a successful family business?

Certain core values play a pivotal role in the growth and sustainability of the family business in general. First and foremost, hard work is the foundation upon which everything else is built. A strong work ethic and unwavering dedication are essential in facing the challenges that come with running a business.

This is followed by a profound understanding of your own business in all its aspects from knowing the industry, the market, and the intricacies of day-to-day operations to the decision-making and strategic planning. While hard work and knowledge are vital for the business, our family believes in the importance of staying humble, driven, and assertive. Moreover, effective communication and collaboration are central to maintaining both family values and the prosperity of the business across generations.

We recognise that to achieve sustained success, it is crucial to involve different generations in the decision-making process. By embracing the perspectives and experiences of both the older and younger members of the family, we enrich our strategies and adapt to evolving market dynamics.

Tell us about Damac's pioneering efforts in the luxury real estate space? Can you share some examples and why Damac has maintained its leadership in this area?

I believe that the main reason DAMAC maintained its position and leadership in luxury real estate is innovation. We always sought to diversify every project and make it different than the one before it, asking ourselves what we can do differently to create unique concepts. For instance, DAMAC was among the first developers to introduce branded residences with Cavalli Tower in 2021. Another example of their innovative



approach is DAMAC Bay by Cavalli, which offers a majestic 42-storey luxury seafront living in three stunning towers at Dubai Harbour.

Another example would be the DAMAC Lagoons project, a master community featuring elegant townhouses and villas inspired by the Mediterranean, each with its own thematic clusters such as Monte Carlo or Mykonos.

Recently, DAMAC revealed "Canal Crown by de GRISOGONO," designer waterfront apartments at Business Bay, boasting state-of-the-art infrastructure and world-class attractions.

This relentless focus on innovation and trendsetting has solidified DAMAC's position as a dominant force in the luxury real estate market.

Dubai has emerged as one of the world's most prolific lifestyle and real estate destinations. What are some of the reasons contributing to this profile as a safe haven for investor and UHNWIs?

Dubai has risen to become one of the world's most sought-after lifestyle and real estate destinations, appealing to investors and high-net-worth individuals (UHNWIs) for various reasons. The visionary leadership of Dubai's ruler family has shaped a city that attracts individuals of diverse backgrounds and nationalities, making it a global hub for investment. The city offers a wide range of attractive perks, including luxury hospitality, top-notch international dining options, high-quality entertainment, and much more, making it an enticing choice for UHNWIs.

Simplifying processes to attract investors is another significant aspect of Dubai's appeal, evident in initiatives like the golden visa and various investor visa options. The city's cultural diversity, with people from all over the world, coupled with English being widely spoken, makes it easy for people from different countries to adapt and choose Dubai as their destination.

Moreover, the absence of income tax for individuals and low tax rates for large corporations add to the city's attractiveness, encouraging companies to relocate their headquarters to Dubai. One of the most compelling advantages of living in Dubai is the excellent quality of life it offers at a relatively affordable cost. Compared to other global cities, living in Dubai costs approximately 1/5, making it a real value for money proposition.

In conclusion, the combination of these perks and advantages makes Dubai an ideal destination for individuals and investors worldwide.



Artificial Intelligence Bird Eye's View



Dr. Shahin Rouhani, Physics Department, Sharif University of Technology, Tehran.

dialogue to determine whether he is talking to a man or a machine. Although this "Turing test" did not satisfy many experts, it is often cited as being the source of the questioning of the boundary between humans and machines.

In recent years, the public has witnessed some amazing achievements. This has resulted in boosted funding for AI: in 2011, Watson, IBM's AI, wins games against 2 Jeopardy champions! (Jeopardy was a popular TV game in America). In 2012, Google X (Google's research lab) was able to recognize cats on a video. In 2016, AlphaGO (Google's AI specialized in the game Go) beats the European champion (Fan Hui) and the world champion (Lee Sedol) then itself (AlphaGo Zero). Note that the game of Go has combinatorics much larger than chess.

History and definition

Artificial Intelligence (AI) has revolutionized information technology in such a way that cannot be ignored. It has already had a deep impact on human life, which is likely to increase. AI is a subfield of computer science that includes the creation of intelligent machines and software that work and react like or better than human beings. Artificial intelligence (AI) is a young discipline of sixty years, which is a product of sciences, theories, and techniques (including mathematical logic, statistics, probabilities, computational neurobiology, and computer science) that aims to imitate the cognitive abilities of human beings.

The term "AI" (meaning Artificial Intelligence) could be attributed to John McCarthy of MIT (Massachusetts Institute of Technology), which Marvin Minsky (Carnegie-Mellon University) defined as "the construction of computer programs that engage in tasks that are currently performed by human beings, because they require high-level mental processes such as: perceptual learning, memory organization and critical reasoning. The summer of 1956 conference at Dartmouth College is considered the founding event of this discipline. Alan Turing raised the question about the possible intelligence of a machine for the first time, in his famous 1950 article "Computing Machinery and Intelligence". He described an imitation game whereby a human should be able to distinguish between a human and a computer in a text based

In May 1997, Deep Blue (IBM's expert system) wins against Garry Kasparov (world chess champion) achieving Herbert Simon's 1957 prophecy 30 years later but still! The operation of Deep Blue was based on a systematic brute force algorithm, where all possible moves were evaluated and weighed. There is nothing intelligent about it. This, however, shows the advantage of the machine, which is able to process many millions of operations per second.

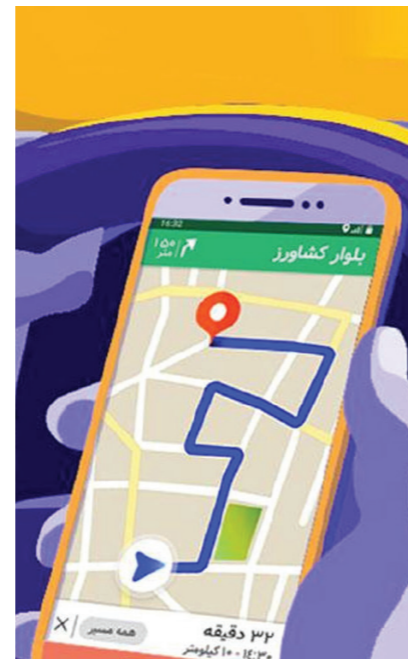
Since 2010, a new bloom in AI has appeared, which is based on massive data and new computing power. Big data, or access to massive volumes of data is the first factor. Massive volumes of data, like the data available on google maps, make self-driving cars possible. Then the development of high efficiency computer graphics card (GPU) processors to accelerate the calculation of learning algorithms. Capable of more than a thousand billion transactions per second, it has enabled considerable progress at a limited financial cost (less than 1000 euros per card).

Applications of AI are present in every aspect of modern life, as expert systems solve complex problems in various areas of science, engineering, business, medicine, video games, advertising, etc. This article tries to give an overview of AI and it's applications in human life, though this is no easy task as 1000 new forms of AI in applications are introduced to the market every week.

AI and Technology

Perhaps the most prevalent use of AI is in this industry. One can name a plethora of applications in Finance, Insurance, Telecommunications, Energy sector, and Aviation as a few examples. Automatic fraud detection and money laundering in the banking sector, algorithmic trading in financial markets are just a couple of examples. In fact by 2024, the algorithmic trading industry is expected to reach \$19 billion annually.

Within the broader landscape of financial services, insurance stands out for its unique applications of artificial intelligence. These include: AI-Powered Underwriting. Today, insurance companies use AI



to assess risks using massive data sets that draw on factors, ranging from prescription drug history to pet ownership. On the other hand, in claims processing, they use machine vision to assess auto damage. In Telecommunications, there is a massive use of AI ranging from network optimization to predictive maintenance. The energy sector is another heavy user of AI. Oil and gas are a complex field, and one with little room for error given safety and environmental considerations. Artificial intelligence is allowing energy companies to increase their efficiency without increasing costs. Applications include: Image processing to identify maintenance needs and anticipating energy demand.

Safe and efficient aviation, depends on the careful use of data to optimize both individual flights and the broader aviation infrastructure. Some examples could be predicting route demand or pilotless airplanes.

Taxiing, landing and scaling already happen on auto pilot, but the public is perhaps not ready to trust machines yet. However, Uber is thinking about air taxi service within cities. We may soon see an air taxi drone service in Dubai.

Industry 4.0, cooperation of AI, robotics and 3D printing paints the picture of a humanless factory. A development which is challenging for the South, as cheap labor will no longer be an advantage.

actor, will not be able to act in future movies due to his rare brain condition. But he will continue to appear in movies, as he has signed a contract with Deepfake, a firm that provides "AI solutions for video production".

In Deepfake movies, all facial features, body movements and voices will be mimicked.

There are many AI applications for painting, designing and architecture. I generated a poster for a scientific seminar using AI, as I did with the one in this article. The cover of this magazine is also an AI-enhanced image.

In music, AI has been composing pieces of pop and classical music.

analyzed by AI tools. In fact, rapid sequencing itself cannot be done without AI. Stanford cardiologist Euan Ashley and his research team received a Guinness World Record last year for sequencing a full human genome in just over five hours.

AI and Medicine

There are various applications of AI in health care. Various gadgets are appearing in the market for monitoring your health using AI. An increasing number of tasks can now be outsourced by AI. One interesting application is customized treatment, one that is tailored to your DNA. The other is Computer Vision for Diagnosis and Surgery.



AI in Arts

Application of AI in the movie industry is going to be earth shattering, as it will result in elimination or marginalization of actors and writers. The fear is that AI will enable a handful of producers and directors, who can generate live action movies from an AI generated script and a few directorial instructions, completed with computer generated imagery that look realistic.

No more motion capture, no more acting, no more artists, no more traditional effects, and no more editing required. One positive piece of news is that, Bruce Willis, the famous Hollywood

AI and Sciences

Artificial intelligence can generate theorems in mathematics and prove them. Admittedly, it can't do complex mathematics as expected from our known mathematicians, but still noteworthy. In physics and chemistry, the situation is a little more complex, as AI is used for analysis, but still needs the assistance of a scientist.

Many of my colleagues are already using tools such as GPT for writing their scientific papers. In genetics and biomathematics, application of AI is essential. Massive data sets resulting from rapid sequencing techniques can only be

Social Impact of AI

The social impacts of AI are beyond imagination. There are already firms which are using AI in their recruitment interviews. Privacy and democracy are under threat from the prying eyes of the state. Some jobs will be taken over by AI, causing millions to lose their jobs. It is a little like telephone operators who existed around sixty years ago but went extinct over time. Which jobs will suffer from unemployment? Taxi drivers are already replaced, thus all transport drivers, trains, ships and airplanes will follow suit. Script writers, most technicians, doctors and psychology counselors, barmen, and so

Artificial Intelligence Bird Eye's View

on and so forth. Who can feel safe? Where is that special human touch needed? Caregiving, perhaps? What will humanity do with these millions of jobless people? A serious social upheaval is on the horizon.

Ethics and AI

Global standards for ethics in AI is now a major concern. UNESCO has produced the first-ever global standard on AI ethics, known as the "Recommendation on the Ethics of Artificial Intelligence", which was accepted by all 193 Member States in November 2021.

Applications and presence of AI in Iran

AI has made its way into Iranian markets but clearly there is still a large vacuum to be filled.

The banking system has an automatic algorithm detecting fraud and money laundering. Traffic cameras, and spotting motorists speeding or going an illegal way are just a few examples.

And why all the hoo-ha now?

This is because of a large language model (LLM)



It emphasizes on who should be in control of these technologies and makes a strong call to governments around the world to ensure that AI is developed and used in ways that are compatible with human rights.

Regulatory bodies around the world are forming to investigate the products which use AI, to conform to the needs of the society but not infringe on topics such as privacy. This is however a challenge as no one knows, what is reasonable to demand of an AI solution. Some ethical problems are raised by AI. It was just a few years ago that the face recognition algorithm of Facebook was racially biased. This can happen in other services, hidden from our eyes, for example in hospital triage. The Chinese government is already using a points system to reward the better citizens.

recently launched by GPT, a generative pre-trained transformer. A transformer is a type of AI deep learning model that was first introduced by Google in a research paper in 2017. Five years later, transformer architecture has evolved to create powerful models such as ChatGPT.

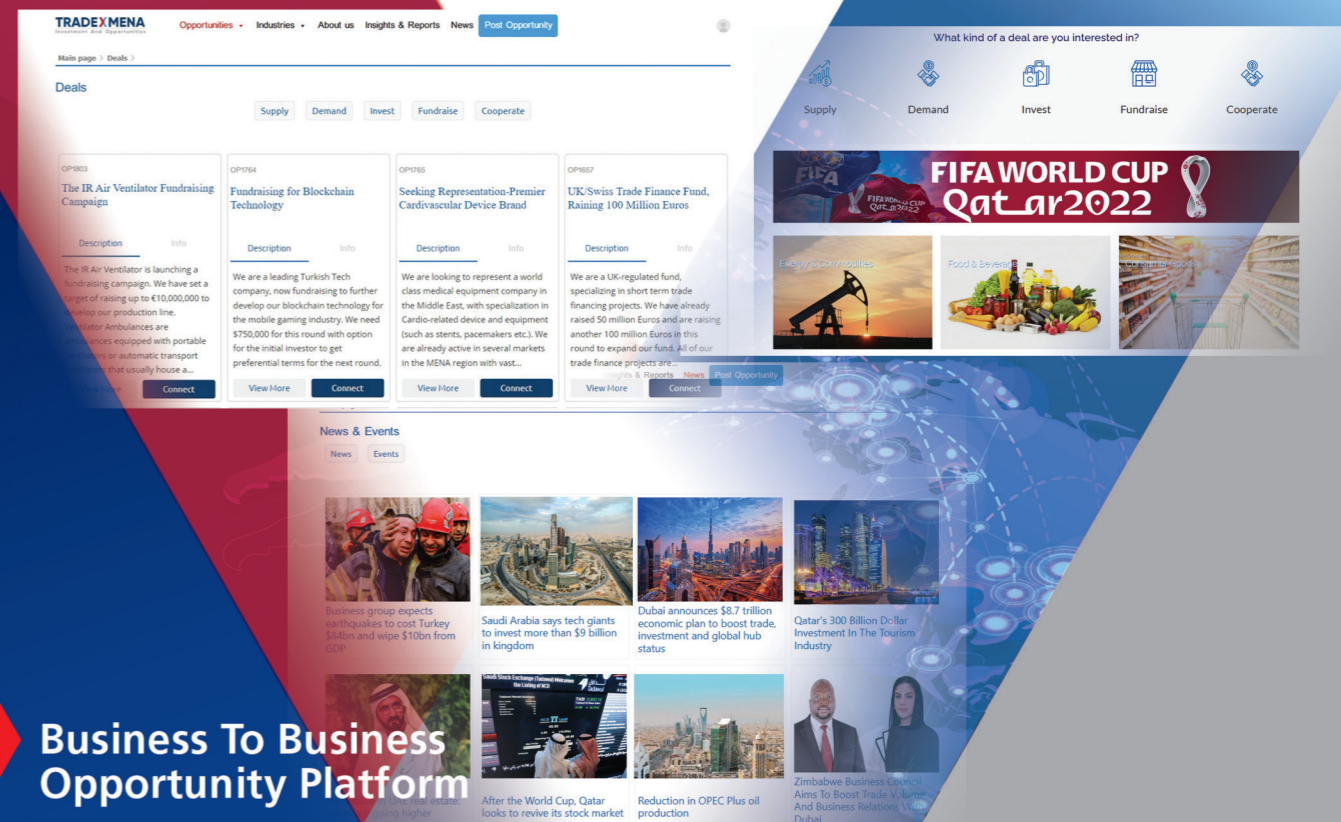
Apparently ChatGPT knows everything and can answer all your questions. From how to make a Persian dish such as Ghormeh Sabzi to a complex algorithm for solving a given problem. It can write you a computer code or even a scientific paper. Of course, ChatGPT isn't the only variation, there is also Bard, Monica, etc. However, no matter how impressive it is, it will never match the all-powerful brain.

The limitations immediately appear, for example if you ask it how you can buy a canary from Enghelab street*.

Regardless I admit that it is pointing out to a very illusive concept, can machines understand semantics? Not even close!

*I owe this question to a friend!

Artificial Intelligence (AI) has revolutionized information technology in such a way that cannot be ignored. It already has had a deep impact on human life and this is likely to grow.



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Introduction to AI Applications: A Revolutionizing Industry

By: Arad Tadayon



The origins of AI can be traced back to the 1940s and 1950s, when researchers began exploring the possibility of creating machines that could perform tasks that required human intelligence. The term "artificial intelligence" was first coined in 1956 by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon during the Dartmouth Conference. In 1950, computer scientist Alan Turing proposed the "Turing Test", which is a measure of a machine's ability to exhibit intelligent behavior that is indistinguishable from that of a human.

This idea sparked a wave of research and development in AI, as scientists and engineers sought to create machines that could think and learn like humans. During the 1960s and 1970s, AI researchers developed new algorithms and programming languages that enabled computers to perform tasks such as natural language processing, pattern recognition, and decision-making. However, progress was slow due to limited computing power and data availability. In the 1980s and 1990s, AI experienced a resurgence with the development of expert systems, neural networks, and genetic algorithms. These technologies enabled machines to learn from data and make decisions based on complex patterns and relationships.

In the 2000s and 2010s, AI entered a new era of innovation with the rise of big data, cloud computing, and deep learning. These advances allowed machines to process vast amounts of data and learn from it in real-time, leading to breakthroughs in areas such as speech recognition, image analysis, and autonomous vehicles.

Artificial Intelligence (AI) is a rapidly evolving field that has gained significant attention in recent years. It involves the development of intelligent machines that can perform tasks that usually require human intelligence, such as visual perception, speech recognition, decision-making, and language translation.

AI applications have been introduced in various industries, including healthcare, finance, transportation, education, and entertainment. These applications have the potential to revolutionize the way we live and work, providing us with unprecedented levels of efficiency, accuracy, and speed. However, as AI technology advances, it also raises ethical concerns about privacy, security, and job displacement. This article will explore the different types of AI applications and their potential impact on society.

Text-based AI, also known as natural language processing (NLP), is a subset of artificial intelligence that focuses on the interaction between computers and human language. It involves teaching machines to understand and analyze human language, including grammar, syntax, and semantics. Text-based AI can be used for a variety of applications, such as chatbots, virtual assistants, and language translation. It can also be used in creative industries, such as writing, journalism, and marketing, to generate content or data analysis. Some popular text-based AI includes GPT-3 by OpenAI, BERT by Google, and Transformer by Hugging face.

ChatGPT is an AI-powered chatbot that uses natural language processing to have conversations with users. It was developed by GPT-3, one of the most advanced text-based AI models currently available. ChatGPT can understand and respond to a wide range of topics, making it a useful tool for customer service, education, and entertainment. BERT (Bidirectional Encoder Representations from Transformers) is a language model developed by Google that uses deep learning techniques to understand natural language. It is designed to pre-train on large amounts of text data and then fine-tune on specific tasks, such as question answering or sentiment analysis. BERT can understand the context of words in a sentence and has achieved state-of-the-art performance on many natural language processing tasks.

Transformer is an open-source deep learning library developed by Hugging Face that implements the Transformer architecture, which was introduced in a paper by Google researchers in 2017. The Transformer architecture is a type of neural network that is particularly well-suited for processing sequential data, such as text. It has been used for a wide range of natural language processing tasks, including machine translation, text summarization, and sentiment analysis. Transformer has become popular among researchers and developers due to its flexibility and ease of use.



The way Chat GPT works is by using a process called "text generation". When a user inputs a message or question, the chatbot analyzes the text using NLP techniques to understand the meaning and intent behind the words. It then uses the pre-trained GPT model to generate a response that is most likely to be relevant and accurate. The pre-training process involves feeding the GPT model with massive amounts of text data, such as books, articles, and websites. This allows the model to learn the patterns and structures of natural language, as well as the context and semantics of different words and phrases. By doing so, it can generate coherent and meaningful responses that are similar to those of a human. Chat GPT also uses a technique called "fine-tuning" to adapt its responses to specific domains or topics.

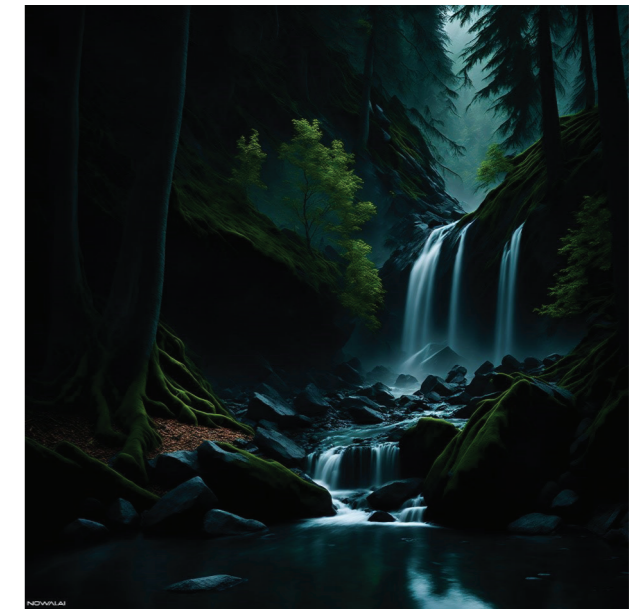
This involves training the model on a smaller dataset of text data that is relevant to a particular industry or field, such as healthcare or finance. By doing so, it can generate more accurate and specialized responses that are tailored to the user's needs.

Artificial intelligence (AI) has been used in the field of art to create new forms of creative expression and to enhance traditional artistic techniques. AI algorithms can be trained on large datasets of images, music, or other types of media to learn patterns and generate new content that is inspired by the data it has analyzed. One example of AI in art is the use of generative adversarial networks (GANs) to create realistic images that are indistinguishable from those created by human artists. GANs consist of two neural networks that work together to generate new images: a generator network that creates new images, and a discriminator network that evaluates the quality of the generated images.

The two networks are trained together until the generator network can create images that are difficult for the discriminator network to distinguish from real images. DeepDream is a computer vision algorithm developed by Google that uses a convolutional neural network to find and enhance patterns in images. It works by analyzing an image and then modifying it to highlight and enhance certain features, creating a dreamlike, surreal effect. CycleGAN is a type of GAN that can be used to translate images from one domain to another without the need for paired training data. For example, it can be used to translate images of horses to images of zebras, or to convert daytime images to nighttime images. Pix2Pix is another type of GAN that can be used for image-to-image translation.

It works by taking an input image and generating a corresponding output image based on a given style or set of parameters. For example, it can be used to turn sketches into realistic images or to colorize black and white photos. StyleGAN is a type of GAN that can be used to generate high-quality, realistic images that are indistinguishable from those created by human artists. It works by learning the style and structure of a given dataset of images, and then generating new images that are inspired by that dataset. StyleGAN has been used to create realistic portraits, landscapes, and other types of images.

Image-based AI refers to the use of artificial intelligence algorithms and techniques to analyze and understand images. This field has seen significant advancements in recent years, thanks to the development of deep learning techniques like convolutional neural networks (CNNs) and generative



adversarial networks (GANs). Image-based AI has a wide range of applications, including object recognition, face recognition, image segmentation, and image-to-image translation. For example, image-based AI can be used to identify objects in photos or videos, such as cars, people, or animals. It can also be used to detect and recognize faces in images, which has numerous applications in security and surveillance. Image-based AI can also be used for medical imaging, such as analyzing X-rays or MRI scans to identify abnormalities or diseases. In addition, it can be used for autonomous driving, where cameras and sensors are used to detect and recognize objects on the road. ResNet, YOLO AI, and AlexNet are all examples of image-based AI models that have made significant contributions to the field. ResNet, short for "Residual Network," is a deep neural network architecture that was introduced in 2015.


It is known for its ability to train very deep neural networks with hundreds of layers. ResNet uses skip connections to allow information to pass through the network without being altered, which helps to prevent the vanishing gradient problem that can occur in deep networks. ResNet has been used for a wide range of applications, including object recognition, image segmentation, and speech recognition. YOLO AI, short for "You Only Look Once", is an object detection algorithm that was introduced in 2016. YOLO AI is known for its speed and accuracy, as it can detect objects in real-time with high precision.


YOLO AI works by dividing an image into a grid and predicting bounding boxes and class probabilities for each grid cell. YOLO AI has been used for applications such as autonomous driving, security and surveillance, and robotics. AlexNet is a deep convolutional neural network that was introduced in 2012. It was one of the first deep learning models to achieve state-of-the-art performance on the ImageNet dataset, which contains millions of labeled images. AlexNet uses multiple convolutional layers to extract features from images, followed by fully connected layers to classify the images into different categories. AlexNet has been used for a wide range of applications, including object recognition, face recognition, and medical imaging.


Introduction to AI Applications: A Revolutionizing Industry



Overall, there are lots of AI applications in our world right now and these applications vary from each other. It is hard to find a specific AI on the internet for a specific purpose, but there is an AI for that as well! By using "thereisanaiforthat" you can search what you would like to do and the site recommends you a multitude of AI with different functions that could be beneficial to you. Utilizing AI in today's world is slowly becoming a trend and having sufficient knowledge about where or how to apply them can be a key factor in the quality of your work.

Transportation 	
Autonomous vehicles	Waymo, Tesla Autopilot, Cruise Automation, Uber ATG, Aurora Innovation
Traffic management	Inrix, Moovit, Waze, TomTom, HERE Technologies
Fleet management	Fleet Complete, Geotab, Omnitracs, Samsara, Verizon Connect
Public transportation optimization	Citymapper, TransitScreen, Trafi, Moovit, Transit App
Delivery logistics	DispatchTrack, Bringg, Onfleet, Circuit Route Planner, Routific

Education 	
Personalized learning	Carnegie Learning, DreamBox Learning, Knewton, Smart Sparrow, Edmentum
Student support and engagement	AdmitHub, Gradescope, Nearpod, Quizlet, Top Hat
Educational content creation	Cognii, Querium, Knewton, Gradescope, Edmentum
Administrative tasks automation	Blackboard, CampusLogic, Ellucian, PowerSchool, Skyward
Language learning	Duolingo, Babbel, Rosetta Stone, Memrise, Busuu

Retail 	
Personalized recommendations	Amazon, Netflix, Stitch Fix, Pandora, Spotify
Inventory management	Bossa Nova Robotics, Simbe Robotics, Zebra Technologies, Samsara, Scandit
Customer service	Conversica, Bold360, Ada Support, Helpshift, Kustomer
Pricing optimization	DynamicAction, Bluecore, Revionics, Omnia Retail, Boomerang
Fraud prevention	Signifyd, Forter, Sift Science, Kount, Riskified



Healthcare

Medical diagnosis	IBM Watson Health, Enlitic, Arterys, Zebra Medical Vision, Aidoc
Drug discovery	Atomwise, BenevolentAI, Insilico Medicine, Recursion Pharmaceuticals, Berg Health
Personalized medicine	Deep Genomics, Freenome, Karius, Paige.AI, PathAI
Patient monitoring	Current Health, EarlySense, Biofourmis, Viz.ai, KenSci
Mental health	Woebot, Ginger.io, X2AI, Koko, Wysa



Finance

Fraud detection	Feedzai, Featurespace, Ayasdi, Socure, DataVisor
Trading and investments	Kensho, Sentient Technologies, Numerai, Kavout, AlphaSense
Risk management	Ayasdi, Behavox, Digital Reasoning, FICO, Quantexa
Customer service	Kasisto, Personetics, IPsoft, Amelia, Kore.ai
Personal finance management	Mint.com, Personal Capital, Betterment, Wealthfront, Robinhood



Mr. Aram Pakravan

Aram Pakravan, born in 1973 in Tehran, has a diverse and enriching professional journey. He graduated with a master's degree in Technology management (Innovation) in 2004 and began his career in the Oil, Gas, and Aviation industries in the '90s, representing key players such as Cobus, Trepel, Douglas, and Hycalog. Under the mentorship of Mr. Rahim Irvani, he held significant roles in various companies, and later, at ASUS, managed laptop and mobile products for Iran. Aram pioneered service management and new product development in the telecom industry at MCI, Iran's leading mobile operator. A serial entrepreneur, Aram's self-taught business acumen was honed by founding five startups in a decade. Currently, he mentors startups in Iran, Turkey, and Canada, while offering marketing, product, and pricing courses to managers and business owners.

A comprehensive approach to business strategy, addressing market influences and shareholder needs beyond internal dynamics for a harmonious, successful operation

The contemporary business landscape demands agility, strategic foresight, and a thorough understanding of the factors that influence a company's success.

The "A&D Revamped Business Model" offers an innovative and improved version of the existing Business Model Canvas proposed by Alexander

The A&D Revamped Business Modeling Methodology

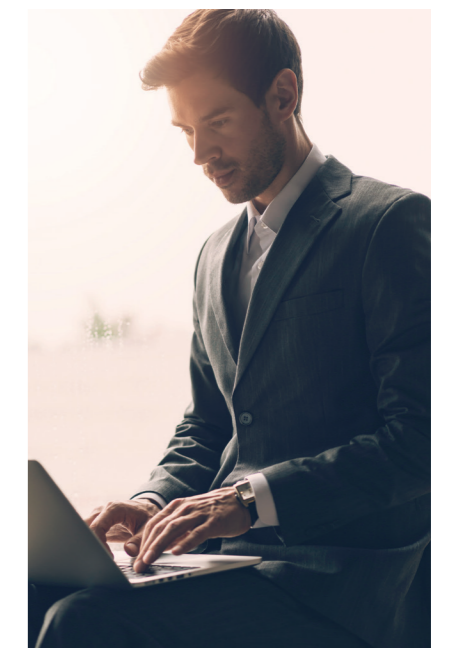
Osterwalder. While it is a widely used business modeling tool, this article will argue that the A&D Business Model addresses critical limitations and offers a much more holistic and inclusive understanding of business strategies. One of the most important issues identified in Osterwalder's model is its primary focus on internal organizational dynamics. While an understanding of these dynamics is indeed crucial, the canvas does not provide a practical and complete picture. The A&D Business Model rectifies this by incorporating broader market influences, making it a more comprehensive tool for strategic planning.

In the current complex and rapidly evolving business environment, external factors significantly influence a company's success. This new model acknowledges these forces by incorporating elements such as "Industry", "Foresights", "Market" and "Macroeconomics". By doing so, it situates a company's strategy within a broader and more practical context, encouraging consideration of regulatory, social, cultural and technological trends, in addition to the understanding of market segments, needs, and demands, as well as macroeconomic factors like capital markets and local market conditions.

This is an essential step forward, as businesses must navigate and adapt to these fluctuating circumstances to maintain their competitive edge. Moreover, the new revamped Business Model makes a substantial addition by accounting for the industry-level dynamics.

It helps strategists understand other value chain actors, stakeholders, competitors, potential new entrants,

and substitute services, making the model an extensive analytical tool for strategic decision making. These features enable a business to account for a wider range of influential factors, making it better equipped to navigate the volatile, uncertain, complex, and ambiguous business environment. The second aspect that the A&D Business Model aims to improve is the lack of consideration for shareholders' and owners' needs and desires in Alexander Osterwalder's model. Shareholders and owners are primary stakeholders who can profoundly influence the organization's trajectory.



The new A&D revamped Business Model goes beyond viewing owners merely as providers of capital and emphasizes their position as de facto customers, incorporating their demands and expectations into the business strategy. This approach aligns with the stakeholder theory, acknowledging that satisfying a diverse range of stakeholders, including the owners and shareholders, can contribute to long-term business success. This new View Angle engages strategists in considering the objectives of investors, balancing with the needs of the business to ensure harmonious and successful operation.

By treating owners as customers, the business can better anticipate and cater to their expectations, potentially reducing dissatisfaction and conflicts.

Driving the Future: The Rise of AI in the Automotive Industry

By: Baran Masoumnia



Dr. Iman Karke Abadi

Please tell us about your assessment of Iran's current automotive industry.

Regarding the ongoing actions and the current circumstances, we have planned on importing parts from abroad and assemble them inside Iran. I strongly believe that the quality of our products will improve.

In your opinion, what are the most notable changes that have taken place in Iran's automotive industry in recent years?

While the Iranian government and the domestic automakers are working on improving the quality of their products, they have lost some of their competitive edges. In contrast, foreign automakers, such as Chinese manufacturers, have been steadily improving their products and services, offering better quality, variety, and customer service.

Do you mind explaining the percentage of the Iranian car market share, which is being in the hands of Chinese?

I can partially answer this question. According to our statistics, sales of Chinese cars and products have been much higher than those of Iran Khodro in the past 1 or 2 years. This is likely due to the competitive prices of Chinese cars compared to Iran Khodro's, and the fact that Chinese cars have consistently been available for sale, except for a recent period. I estimate that Chinese cars now account for about 40-50% of the car market in Tehran.

Can you please tell us about Asia Khodro? How long has it been operating, and what brands do they work with?

They have been working in the automotive industry for 30 years, with focusing on sales and after-sales services. They began their career with the central branch of Tehran Pars under the supervision of the infamous brand, Opel. Later on, they worked with Iran Khodro as the authorized agency 1133. In 2012, they founded Asia Khodro Group, which now has several sales

Iman Karke Abadi is the sales manager of Asia Khodro and also directs the after-sales services and plays an essential role in development and sales strategies.

Mr. Karke Abadi has a bachelor's degree in information technology and has been dedicatedly working in the automotive industry for over 10 years.

By keeping his knowledge Up-To-Date and achieving all the certificates offered by Iran Khodro and the International Automotive Management Association, he was able to shine brightly in this industry and has been active in all aspects of IT and automotive.



and service branches, including the one in Tehran Pars and another in Pasdaran, that specializes in Fownix products.

It is undeniable that customers pay lots of attention to the after-sales services. Do the products have comprehensive after-sales service?

While we do not want to criticize the automotive industry, keep in mind that dealerships are graded. We are proud to have achieved a first-grade rating, and our after-sales service is comprehensive. This is due to our high level of performance, quick turnaround times, and positive customer feedback. We offer unique services that are not available in other dealerships, such as free car wash, free transportation to and from our dealership, and a wide range of after-sales services, including detailing, options, smoothing and painting, PDR and repairs.

Can you share your thoughts on the potential and the position of the domestic automobile brands in the region (Such as Turkey and the UAE), in comparison with the foreign ones.

The potential to improve is always there. In the past, Iranian car manufacturing was much better than other countries. Now, with the production of parts inside Iran and the assembly of cars here, the quality has improved significantly. However, the Chinese cars from Fownix and Cherry brands,

such as Tigo, are 8 times more technologically advanced than the current cars in the world. Our cars and products are not in that level yet.

Can you predict the potential of using artificial intelligence (AI) in the automotive industry in Iran?

First, there is a voice assistant that is not currently available in the products of Iran Khodro. This is a convenient feature that is already available on iPhones and Androids.

It allows users to control their devices with their voice, such as opening windows. I believe that this feature will eventually be available in Iran Khodro products. Other potential features include heart rate detection and stress level detection. However, these features may not be available for another 15-20 years.

Please tell us about the different ways that you have used artificial intelligence (AI) in your products.



We have used ISS in our products which is a fuel-efficient and eco-friendly system that determines when the car should be turned on or off. This system takes the temperature inside and outside the cabin into account, and also pays attention to whether the air conditioner should be on or off. If it is hot outside, the system will not allow the car to turn off, as the air inside the cabin will be hotter than the air outside.

ISS also has an intelligent high beam system that automatically turns the high beams on and off depending on the ambient light. This system uses a light sensor to detect when the light is low, and it will automatically turn on the high beams. If a car is coming from the front, the system will detect the car and automatically turn down the high beams to avoid blinding the driver.

ISS also has a Level 3 autonomous driving mode. This means that the car can drive itself on the highway, but the driver must still be ready to take over at any time.

The car uses sensors to see the road and other cars, and it can maintain a set speed and distance from the car in front. If the car in front brakes, ISS will brake automatically. ISS also has a feature that warns drivers who are following too closely. The car will flash its lights and honk its horn to alert the driver to back off.

Is there an autopilot option in cars inside Iran?

Only Tiggo 8 has the third version of automatic driving.

Many people are either afraid of this autopilot option and are afraid that it won't work properly, or they like to drive themselves. Which one do you prefer?

I highly enjoy driving myself.

What are the advantages of driving a car that has an autopilot feature?

I agree that autopilot has a lot of advantages for long, smooth roads. It can be a great way to relax and enjoy the scenery while the car takes care of the driving. However, I still prefer to drive myself for the most part.

I enjoy the feeling of being in control of the car and the sense of accomplishment that comes from driving a long distance safely.

Will the upcoming Opel models be technologically comparable to Fownix?

No, Opel is not comparable with Fownix in terms of technology. Fownix is more technologically advanced; having features such as adaptive cruise control and automatic emergency braking. Opel focuses more on the quality of the engine and gearbox, and its service is also valued. In the near future, car managers will be introducing a new luxurious brand called Oxide (Exeed) to Iran. This is considered as a luxurious Chinese brand and is incomparable with Fownix.

Let's talk about the factors that Iranians who want to buy cars consider when making a purchase. Which factor do you think is the most important? quality, price, or the services?

In the past, when cars were less expensive, people generally bought cars with more features. For example, Erizo was 580 million tomans, but now it is 1 billion.

However, there are several groups of customers who are looking for different things. People who used to own a BMW or a Mercedes-Benz and want to buy a car with almost the same features, would rather buy a Fownix. Of course they are aware of the fact that Benz and BMW are way better cars, but they are still satisfied with Fownix.

Driving the Future: The Rise of AI in the Automotive Industry

Others have done their research on Fownix and know what the gearbox and the engines are made of, and they buy a car with peace of mind.

Finally, there are people who buy the regular Mini X22 or X22 Pro. Although these cars don't have the same quality or technology as Fownix products, they still have better features and quality than domestic products, and they also have better after-sales service.

Should we wait for any special news from the automotive industry and your company?

Of course, the fact that our company is going to export Opel is highly important. Everyone has a positive view on this brand because it has a history of making high-quality cars. Since the cars will be imported and assembled here, the quality of assembled cars will definitely improve and fuel consumption will decrease.

As a young manager in the Iranian automotive industry, I believe that the shift towards electric cars is a necessary step towards progress. Please elaborate your idea.

While I understand that some people may miss the driving pleasure of old cars, I believe that the benefits of electric cars, such as their environmental impact and fuel efficiency, outweigh the drawbacks are growing.

Do you like to go towards technology and electric motors and distance yourself from fossil fuels or keep it in a consolidated way? What is your general opinion about this matter?

That was a thought-provoking question. Since I've driven both, I'd choose an electric car for my daily commute, but a naturally aspirated V8 engine car for my vacation.



Tigo 8 Pro is the newest generation of Chinese cars in the Iranian market. What other features could be added to make it even more appealing to Iranian consumers?

Volvo has an automatic parking system that none of our current products have. This system is very secure and even if you hit a pedestrian, an airbag will open to protect them. The system also senses the driver's driving mode and can monitor their heart rate to warn them if they are about to do something dangerous.

This car is so safe that I drove a Volvo V40 R Design, for a while and it was very easy to control. I was able to take corners at 150 km/h that I thought were only possible at 70 km/h.

Although our cars do not have the same safety features as Volvo, our braking systems have been improved and now include all the latest braking technologies.



What are your thoughts about the social behavior of the buyers?

Due to the high fuel prices in Iran, many people are buying the X22 Pro three-cylinder car because it consumes less fuel. They know that this will save them money in the long run, especially considering the recent increases in transportation costs.

While this may not be their ideal choice, it is a reasonable decision; given the circumstances.



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The Use of Artificial Intelligence in Agriculture



Dr. Elahe Karimi

Personal Information:

Elahe Karimi
 * CEO and Chairman of the Board of Directors of Koshehai Zarin Hedayat Company
 * Senior expert in Agricultural promotion and education
 * Phone number : 021-76236600 - 09126233015
 * Email : Ekarimi644@gmail.com

Memberships:

Member of the Engineering Organization of Tehran Province
 Member of the Agricultural Promotion Association

Vital activities performed:

* Consultancy in agriculture and crop production
 * Providing phytosanitary services including investigation and diagnosis of plant pests and diseases from farms, gardens, greenhouses, warehouses and silos for export products, disinfection and control of all harmful factors by integrated methods.
 * Lecturer, consultant and implementation of matters related to the cultivation of edible mushrooms
 * A trusted expert of the Ministry of Agricultural Jihad for agricultural land expertise

Documents and certificates:

* International certificate of TOT (Facilitating Training) from the World Food Organization
 * Training certificate for growing edible mushrooms
 * Training certificate for non-governmental sector experts (training course on different knowledge and network methods to take care of agricultural products)
 * Certificate of integrated management of pests, diseases and weeds (IPM) in vegetable, summer and net crops
 * Certificate of Entrepreneurship of the Ministry of Labor

What is artificial intelligence?

A standard definition of AI would be "the ability of a system or a robot to perform tasks controlled by a computer that humans normally wouldn't be able to do." The purpose of Artificial Intelligence is to support and accelerate human decision-making, not to replace it. AI primarily does this with intelligent data discovery, for example, correlations and pattern recognition, visualization such as charts and dashboards, mechanical learning and system coding, and advanced predictive capabilities. Examples of Artificial Intelligence in everyday life include digital personal assistants (such as Siri), online shopping and advertising, cyber security, language translation, and fake news detection. Due to the expansion and rapid growth of industry, mankind has always sought to speed up the work with higher accuracy.

Using Artificial Intelligence methods instead of the manual ones is highly accurate and also increases efficiency. Artificial Intelligence (AI) as one of the advanced technologies, has been able to improve great changes in many industries and fields. Agriculture is also one of the fields that can experience significant improvement with the use of artificial intelligence. The agricultural industry is one of the branches that in this day and age requires strong calculations and automatic operations using artificial intelligence.

AI can be used in different stages of crop cultivation, from planting to harvesting, irrigation, pest and disease management, forecasting weather and climatic conditions, resource efficiency, and marketing; also, in different stages of storage and processing agricultural products, including quality measurement. In addition to these cases, various applications have been found in macro-agricultural decisions, including management of equipment maintenance, precision in agriculture, performance estimation, and quality and stability of land and water. This article examines the uses of Artificial Intelligence in agriculture and then, the advantages and benefits of using Artificial Intelligence in agriculture, and shows how this technology can improve agricultural performance and its production.

The impact of Artificial Intelligence in agriculture

Artificial Intelligence technology aims to correct problems in this field and produce specific measures to solve and overcome them. With the use of artificial intelligence, it is possible to diagnose product diseases or pests with 98% accuracy. The use of Artificial Intelligence in the fight against agricultural pests brings many advantages and benefits, which include:

- 1- High accuracy: Artificial Intelligence can identify pests more accurately and optimally. Using smart algorithms, examples of pests can be recognized and dealt with automatically.
- 2- Prediction: Artificial Intelligence can predict the conditions for the emergence of pests by analyzing background data such as weather conditions, soil, and other factors, it is possible to more accurately predict the time and place of the appearance of pests and make the necessary plans to combat them.
- 3- Use of robots: Artificial Intelligence can help with the use of robots in pest control. Robots can automatically detect

pests and eliminate them using appropriate methods.

- 4- Maintaining biological balance: The use of Artificial Intelligence can help reduce the use of chemical pesticides and maintain biological balance. With the help of smart algorithms, chemical pesticides can be used more precisely and optimally. Also, Artificial Intelligence helps farmers control the harvesting time by adjusting the light to accelerate the production of crops and vegetables.

Weather forecasting with the help of data: Artificial Intelligence helps keeping the farmer updated about weather and environmental conditions by using sophisticated methods as well as weather reports. This information helps farmers to be productive and profitable without risking the environment or the health of their crops. Analyzing the generated data helps the farmer to take necessary precautions and make smart and timely decisions by using the ability to understand and learn artificial intelligence.

Monitoring the health of crops and soil: Using Artificial Intelligence is an efficient way to control and monitor the



identification of defects and nutrient deficiencies in the soil. With the help of image processing, Artificial Intelligence detects possible defects through the photos captured by the camera and then uses deep learning to analyze plant patterns in agriculture.

Also, agricultural robots with Artificial Intelligence can find more efficient ways to protect crops from weeds. In addition, these robots also help to overcome the labor challenge. Artificial Intelligence robots in the field of agriculture can harvest crops at a higher volume and faster than human workers, and help monitor weeds and spray them with the help of computer vision. Overall, the use of Artificial Intelligence helps farmers to have more efficient ways to protect their crops from weeds. The use of Artificial Intelligence in irrigation methods also includes many advantages and benefits:

Optimizing water consumption: Artificial Intelligence can accurately and optimally determine the amount of water needed by plants. By analyzing background data such as soil type, weather conditions, and water needs of plants, irrigation can be done more precisely and optimally and water consumption can be reduced.

Prediction of water needs: Artificial Intelligence can predict the water needs of plants. By using smart algorithms and background data analysis, it is possible to more accurately and optimally predict the time and amount of water needed by plants and make the necessary plans for irrigation.

Reducing water waste: Using Artificial Intelligence can help reduce wasted water in irrigation practices. By using intelligent systems and automatic control, it is possible to

provide water to plants more accurately and optimally. Water resource conservation: Using Artificial Intelligence can help in water resource conservation by using smart algorithms and optimizing water consumption, it is possible to use water resources more precisely and optimally, and at the same time guarantee the preservation of water resources.

Considering these benefits, the use of Artificial Intelligence in irrigation practices can bring significant improvement in the performance of farmers and preserve water resources.

Applications of Artificial Intelligence in animal husbandry

Animal husbandry plays a very prominent role in providing food for humans. Using AI's vision, data mining, robotics, and the Internet; farmers can increase the production capacity and efficiency of their farms. Artificial Intelligence can help farmers in many cases, such as disease diagnosis, farm management, and the production of livestock produce. We'll discuss some of the most important uses of Artificial Intelligence in animal husbandry.

1. General monitoring systems and detecting suspicious behavior
2. Animal recognition systems
3. Identification, prediction, and prevention of diseases
4. Estimating livestock weight
5. Identifying the optimal time and amount of animal feed purchase
6. Predicting product performance
7. Automatic feeding systems

Challenges facing Artificial Intelligence :

AI systems need a lot of data for training machines to predict accurately. In the case of a very large area of agricultural land, spatial data can be collected easily, while capturing temporal data is a challenge. Different data for special crops can only be obtained once a year as the crops grow. Since this database takes time to mature, it takes considerable time to build a robust machine-learning model. This is the major reason for using Artificial Intelligence for products such as seeds, fertilizers, and pesticides in this field. As a result, the future of agriculture in the following years is largely dependent on the adaptation of cognitive solutions.

Although extensive research has been done and many applications are available, the agricultural industry is still underserved and many issues are still unknown. Even though using AI decision-making systems and predictive solutions for solving the genuine challenges and demands farmers are faced with is probable; agriculture with the help of Artificial Intelligence is only at stage one. To take advantage of the extraordinary scope, programs must be stronger. This facilitates real-time decision-making and consistently uses the appropriate application model to efficiently collect textual data. Artificial Intelligence solutions must become more practical to ensure this technology is available to the agricultural community. If Artificial Intelligence cognitive solutions are offered in an open-source platform and the solutions are more affordable, it will ultimately lead to faster adoption and increased insight among farmers.

It is predicted that the world's population will reach 10 billion by 2050, and due to the increase in population, agricultural lands will turn into houses and roads. Also, the amount of food needed will grow by 50%; meanwhile, about 37.7% of the total land surface is used for the production of crops. In Iran, only about 10% of the land can be cultivated due to water shortage. The only way to deal with this challenge is to use automation and artificial intelligence, which can increase efficiency and production.



UAE Factoid

4,500,000 m²

The size of the "Mall of the World" in Dubai



In November 2012 Dubai announced plans to build the largest mall in the world, aptly called Mall of the World. If built, it will be able to accommodate 180 million visitors per year. It would include the world's largest indoor theme park and 20,000+ hotel rooms.

\$ 3,026,000,000

The estimated revenue of the annual month-long shopping festival in Dubai.



Ever since 1996 when Dubai commenced the annual month-long Shopping Festival, it has set multiple records, including world's largest shopping cart, longest gold chain, longest line of Mercedes cards, largest pillow fight, largest wallet, and largest buffet.

\$ 5,200,000

The expected start price of residence in the new bugatti residential development

The 43-Storey Bugatti Residences will house 182 units, comprising 171 Riviera Mansions and 11 Sky Mansion Penthouses Each of the apartments in the skyscraper will have a unique shape with access to a curved balcony, while the building will be topped with a pool. The penthouses will be served by a pair of garage-to-penthouse car lifts, which will allow the owners to drive their vehicles directly into these apartments. This mirrors Bentley's Miami skyscraper, which will have a car lift that allows residents to drive vehicles directly into apartments on all levels.



15,930,000,000 \$

The amount invested into the robo-advisor market. They provide financial planning services through automated algorithms with no human intervention.

with an annual growth of 12.06% this number is expected to reach \$ 25,090,000,000 by 2027 and According to the UAE government, an estimated increase in economic output of \$ 83.04 billion is expected by 2035. This is due to the application of AI in various sectors, and as it pertains to the finance industry, AI will be a primary contributor by injecting 103 billion of this total into the country's economy.



Turkey Factoid



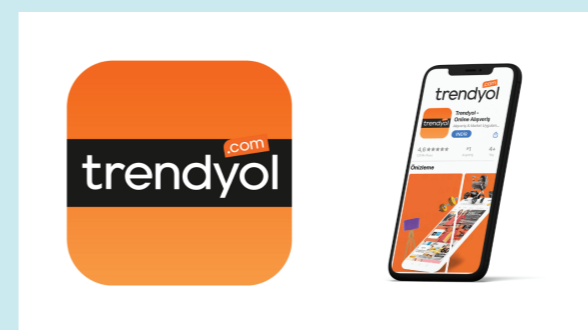
1 Dollar = 27 Lira
Turkish Lira hits new record low

The Turkish lira has hit a record low after the election win of the president, Recep Tayyip Erdoğan, in a renewed sign of the economic troubles his country is expected to face in the third decade of his rule. The lira fell against the dollar as Erdoğan pronounced victory.

2,000,000,000

The number of product views achieved by Trendyol's AI

Trendyol's AI-powered recommendations caused an uprise in product views. Trendyol uses AI to automate customer service tasks and personalize product recommendations. This frees up human customer service representatives to focus on more complex tasks and helps Trendyol to increase sales and improve customer satisfaction. In 2023, AI-powered customer service chatbots handled 15 million customer inquiries.



\$ 2,000,000,000

The amount of funding received in an AI-backed startup



Insider was founded in 2012 in Istanbul. The founders of the company are six Turkish entrepreneurs. The firm received funding from the Qatar Investment Authority and Esas, which is based in Istanbul. Earlier this year, Insider acquired Istanbul-based MindBehind, a conversational commerce and messaging platform.

There is no information about the value of this transaction. As of February of this year, the company's sales in North America increased by 280% year-on-year. The growth of the indicator was recorded after attracting new customers, including Samsung.

10,000 MegaWatts

The capacity Turkey's solar power has reached.

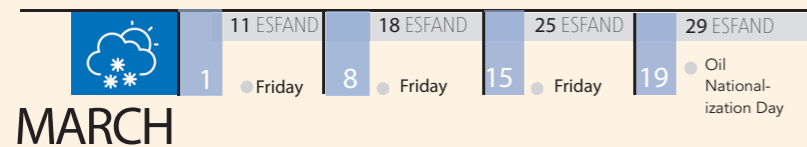
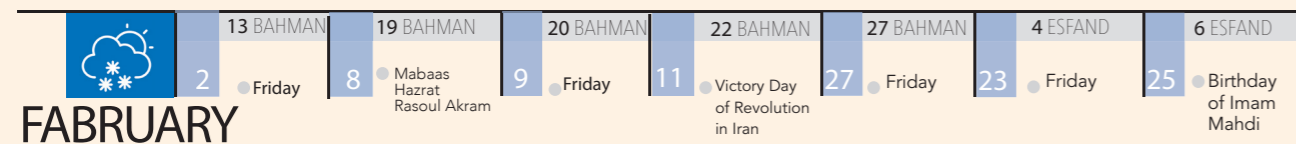
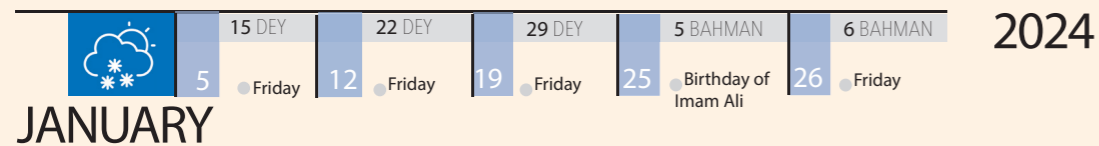
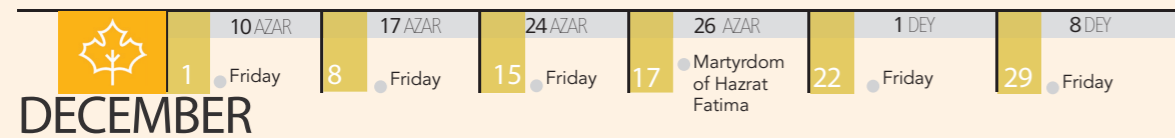
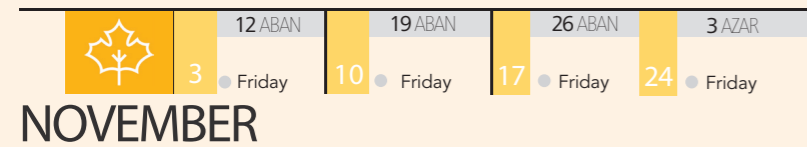
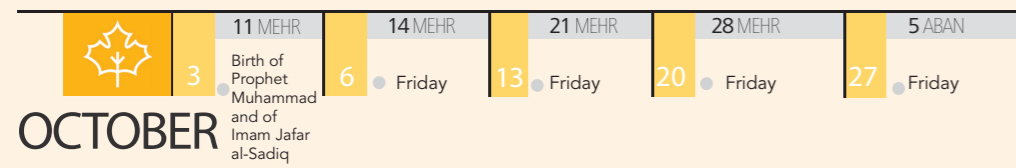
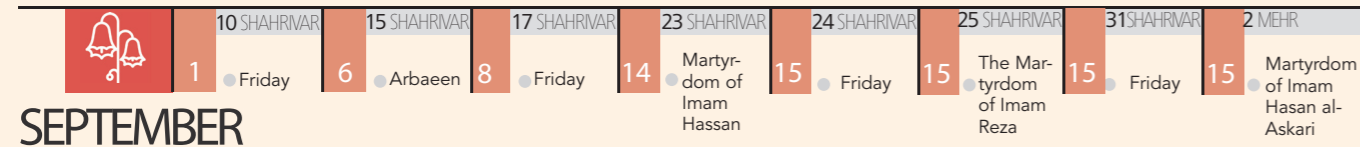
Dönmez emphasized that the solar energy industry has experienced a remarkable breakthrough, particularly in the past few years, during his participation in the green transformation program of Bursa Eskişehir Bilecik Development Agency (BEBKA). Dönmez highlighted how, in the past, people primarily associated the energy sector with oil, coal and natural gas. However, he noted that this perception has significantly shifted in today's world. Dönmez stressed the significant strides made in energy technologies in recent years, emphasizing a major transformation in the sector.



Trends calendar

IRANIAN HOLIDAYS in 2023-2024

GREGORIAN date	IRANIAN date
	● EVENT



Trends calendar

IRANIAN EVENTS & EXHIBITIONS in 2023-2024

The 17th Iran Plast International Exhibition Iran plast (Petro chemical)	17 – 20 Sep. 2023 Tehran International Exhibition Centre	The 3rd international exhibition of Iran Geo	23 – 26 Dec. 2023 Tehran International Exhibition Centre
Automobile industry transformation exhibition Iran Auto Show	15 – 18 Oct. 2023 Tehran International Exhibition Centre	The 24th international exhibition of telecommunications, information technology and innovative solutions	23 – 26 Dec. 2023 Tehran International Exhibition Centre
The 29th International Exhibition of Machinery, Raw Materials, Home Textiles, Embroidery Machines and Textile Products	15 – 18 Oct. 2023 Tehran International Exhibition Centre	The 5th Iran International Job Fair	23 – 26 Dec. 2023 Tehran International Exhibition Centre
The 23rd Tehran International Industry Exhibition	4 – 7 Nov. 2023 Tehran International Exhibition Centre	International exhibition of chemical industries	23 – 26 Dec. 2023 Tehran International Exhibition Centre
The 14th international exhibition Nanotechnology	4 – 7 Nov. 2023 Tehran International Exhibition Centre	The 8th international exhibition Agricultural machinery and tools,	2-5 Jan. 2024 Tehran International Exhibition Centre
The 20th International Metallurgy Exhibition Iran Metafo	24 – 27 Nov. 2023 Tehran International Exhibition Centre	The 14th international exhibition Modern house, interior architecture and decoration	22-25 Jan. 2024 Tehran International Exhibition Centre
Exclusive exhibition of member countries of the Eurasian Economic Union Eurasia Expo	4 – 7 Dec. 2023 Tehran International Exhibition Centre	International Renewable Energy Exhibition	22- 25 Feb. 2024 Tehran International Exhibition Centre
24th exhibition International research, technology and technology market	13 – 16 Dec. 2023 Tehran International Exhibition Centre	International Gem Exhibition	22- 25 Feb. 2024 Tehran International Exhibition Centre

Life Style

"The Electrician"

Photographer Boris Erdagsen's image titled 'The Electrician' won first place in the World Photography Organization's Sony World Photography Awards category. The only problem is that the image was not a photo, but an AI-generated image created by the DALL-E 2. German photographer Boris Eldergsen declined to win in this category, but an artificial intelligence image titled 'Electrical Engineer' won first place in the 'Creative' category of a public competition.

The 1940s-style black-and-white image depicts a woman standing behind another woman with her hand on her shoulder. Her hands appear to be adjusting the dress of the woman in the foreground, both women looking away from the camera. "It was not about winning anything," Eldagsen stated, "I was just making a test to see if they were aware - like a hacker who hacks a system not to exploit it, but to see if there are weaknesses." At first glance, it may look photorealistic, but Erdagsen himself said the image "has all the flaws of AI." Imperfections that suggest this image was created by AI and not a single photographer was included. It can be understood by the fact that the position of some fingers, the appearance of some nails, and the shape of a woman's pupils are not very human-like.

Trends

Trends Lifestyle covers a wide variety of interesting topics such as: art, fashion, cinema, music, books, travel, sports, biographies and much more!

A big thanks to our knowledgeable contributors who wrote the articles or were interviewed on these subject areas.

We hope you enjoy!

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The writing style of our content may differ from article to article and is based on subject matters as well as our contributors' diverse backgrounds and writing styles. Certain statements in our content may also be the personal opinions of our contributors and not necessarily those of Trends Magazine.



Exploring the Transformative Power of Paint in the Hands of Artists



Baraneh Raiesi

Please tell us your opinion on the current situation of arts in Iran, (especially painting and visual arts).

R: Arts in Iran has its own strengths and deficiencies; as for the pros, due to the controversial situation that exists in this geographical region, including the political, geographical, environmental, weather and war crises and etc., artists can reflect the issues on their work. As you know, in auctions and regional art tours, Iranian art always shines brightly. We can see, the crises which occurred in Europe during WWII had a strong impact on the works of European artists and this resulted in the creation of phenomenal work.

During the past few years, people's opinions on art and artists have changed. Could you please tell us what can be done to make people more interested in arts?

R: One of the most effective things that can be done is for the kids' art institutes to become more popular in the society. Their role is very crucial. Children can be taken to the museums and become acquainted with Contemporary Arts. Children are very creative and if their creativity gets cherished, we can have a more dynamic society. Not everyone will become an artist for sure, but what is important is to find solutions for challenges using art and creativity in order to boost your problem-solving skills. People have been paying a lot more attention to arts as a result of the art auctions that have been held in Iran for the past few decades, especially Tehran's Art Auction. People's perception of artists has improved since artists in the current era are not

Reza Onsori, born in 1976 in Tehran, studied Art at Mahe Mehr Institute. He held multiple exhibitions; 3 of which he held, using the help of Golestan Gallery. He also worked with Etemad Gallery and multiple Galleries outside of Iran. He also held exhibitions for his students' works and was their curator.

Baraneh Raiesi, born in 1978, has been working as an artist since 1998. She studied theoretical economics and interior design. Baraneh started teaching arts, first by learning how to design and then moved on to teaching academic painting, after a few years she became interested in sculpting and after passing a few different courses, she officially started her activity.



Reza Onsori

effort into making people more familiar with art and artists. Exchanging artworks between countries and displaying them in museums on a seasonal basis increases people's awareness of art and artists.

People are thinking about new ways of making investments. One way would be purchasing artworks. Please describe your analysis and tell us if you find this act helpful.

R: In my opinion, purchasing artworks for the purpose of investment can be an appropriate option because the person who buys the work can visually enjoy it. Purchasing artworks can not only help the artist financially, but also help the culture of that society. It can be a great investment especially now that the difference between Rial and other currencies is noticeable.

It is also a good opportunity for investors and foreigners; Better works of art can be purchased by them for better prices.

B: This has happened several times, except for our works that have been displayed in the Museum of Contemporary Art, and fortunately, many contemporary artists have had exhibitions in Iran. But if it happens more often, more people will be knowledgeable of today's art.

What social classes are mostly your target audience? What were foreigners' opinions on your work?

R: Foreigners are more interested in abstract artworks than Iranians. Some of my work was purchased by

like the ones from the modern era or even before; They do not have odd personalities or strange looks. Nowadays, the number of galleries in the cities has increased and people have realized that they can go to galleries and they do not necessarily need to be invited.

B: The input people receive is very important, since it makes them more familiar with arts, for example, people should know that the galleries are for the public and it's for them to visit. They don't need to purchase anything but they can be familiarized with art, even if it's just for a day.



They can visit galleries with their families, look at the works close up, and see the differences between styles and ideas. By putting all these qualities together, they can appreciate them. I think spreading knowledge about art has been successful in recent years and people are getting to know more about art, and auctions have helped them to get to know many artists. Also, I believe each country should put more

foreigners for their galleries, or even a collector who used to work with foreign countries purchased a couple of my works. These works were sent to Monaco. Also in 2006, 40 pieces of my works were sent to Dubai by a decorator.

One of the most important pillars of your current activity, which is very praiseworthy, is your approach to teaching children. Where did the idea first come from? What are the differences between your teaching methods and others? Are your workshops held permanently or periodically?

R: I have been teaching adults for 22 years, but the idea of teaching kids was formed 10 years ago; when I started to work with my wife (she's a painter and a sculptor and she has completed the courses of specialized training for children), we started training the children of the people I used to teach. My wife and I formed a very good team and we kept going forward. We explain the history of art to these kids, using visuals such as images and videos, in order to inspire them. Basically, we teach Contemporary Arts to them in a way that is appropriate for their age. We take them to different exhibitions almost every year. It helps them to find their style and path and by the age of 10 they will be able to have a noticeable collection of their own art. We get thrilled to see their progress.

B: I have to say that painting has been a part of me ever since I was a child. My mom went over to the calligraphers' association to enroll me in their classes and I remember her having this very serious conversation with me that I shouldn't be taught directly at my age (I was 8 or 9 years old back then) and there shouldn't be any set patterns and I was just drawing freely. Of course, teaching methods have changed.

When I became an adult and passed some courses, I realized that children were my favorites because their pristine thoughts and minds were fascinating to me. I thought about teaching children in the same way that I was taught as a child. I like the fact that this creative method can create a kind of intellectual development for children, help them to depict whatever is in their imagination, and to nurture those beautiful imaginations that they have as kids.



Which communication channels and media do you use to inform your audience about your activities, works of art, events, etc.?

R: Announcements about my activities are made using social media, especially Instagram on which I share my daily activities including workshops and I will announce any upcoming exhibitions using the mentioned platform. Our Instagram page dedicated to teaching is called "Creativity Arthouse" and my own personal page dedicated to my work is underneath the name: "Reza Onsori"

B: I have had the page "Baraneh Atelier" educational Instagram page for years, and many people got to know us, our workspace, and our teaching style through this page. The page for my artistic work is called "Baraneh Raiesi" which has had an impact on the public's familiarity with our work.

How do you get inspired when creating art? How much does the mental condition of the artists affect the output of their work?

R: I'm inspired by my surroundings and my own life experiences. We live in a world where there are a lot of contradictions and I illustrate them in my work. I believe it is really important for artists to keep themselves up-to-date and as for myself, I have always been trying to learn more.

B: My paintings and sculptures are unique figures and since the issues of women have always been my muse, I've addressed those issues in my paintings and sculptures. I start by drawing different figures, designing, and then executing them. I wanted



to create something unique but influential. I asked myself what was the most important feature for me? When I thought about the answer, the first things that popped up in my mind, were my hands and my thoughts; Because I would have never been able to do anything without them; I couldn't paint or sculpt.

I decided to work on people who didn't have these two traits. I thought about the future of these people and women. That's how these figures were born and my mannequins came into existence. Regarding my activity with galleries, I have to mention that I am an artist at Golestan Gallery and I also held my own exhibition there.

I have worked with different galleries, such as Shirin Gallery, Hoor Gallery, and Golestan Gallery for 100 works of 100 artists and also the Imam Ali Museum. Most of my works were sold to doctors and I think that the figurativeness of my works is the reason for it.



New Agents of Art

AI artists create novel concepts and visuals using the interaction of crashes, controls and AI to find balance between the two. We're already seeing it on pop album covers and traditional art gallery walls, expanding the concept of computer-generated art.

AI systems can learn to compose original music in the style of Elvis Presley, generate paintings unique to Caravaggio, or collaborate with artists to create films and animations. In addition, AI assistants can help restorers restore long-lost masterpieces of art history by analyzing artworks and learning the unique style of each artist who has ever lived. But the question is how is AI changing our perspective on art and how do we make them?

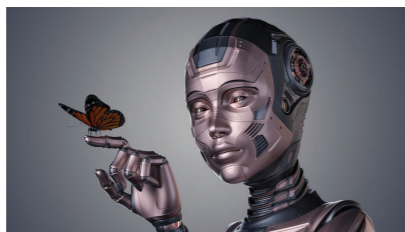
To answer these questions, you should keep in mind that recently, AI-based tools have emerged and can be used to create digital art, which is very promising. Through the use of AI technology and tools, artists and creators can develop new forms of expression and push the boundaries of art, as we know today.

Creating a masterpiece or an art using AI, can be seen as a form of collaboration between humans and machines. There are loads of tools and techniques that allow artists to expand their abilities. Here are some of the tools:

1. Generative Adversarial Networks (GANs)
2. Image style algorithms
3. Computer-aided drawing tools
4. Image classification system
5. Art chatbots

The new field of digital art is pushing the boundaries of creativity and changing the way art is made. Artists build autonomous robots and work with them to feed algorithms and train machines to create novel visual works.

They use computer programs that mimic the human mind to create a never-ending stream of unique works of art. Artificial intelligence has become a desirable collaborator for some in the creation of works of art.



GANs:

One of the most commonly used techniques for creating AI-driven art is generative adversarial networks (GANs). GANs usually consist of two neural networks, a generator and a discriminator, that by working together generate images similar to the training/reference images provided by the artist. A generator network creates random images and sends them to a discrimination network that distinguishes them from real images. Over time, the generator network

adjusts its output to produce images that more and more resemble the training images. In this way, different images can be created quickly and efficiently.

Image-Style Algorithms:

Image-style algorithms are another popular technique for creating AI-driven art. These algorithms allow artists to apply different picture styles to a single image in order to create unique and interesting visual effects. The style algorithm combines two images (One for content and one for style) into one output also called

the final image. The content image provides the overall structure and the style image provides information about the style characteristics the artist intends to apply. It may sound strange, but you've probably used photo filters on social networks before. Have you not?

Computer-aided Drawing Tools:

Computer-aided drawing tools are yet another way of creating art, using AI. These tools allow the computer to suggest colors, textures, and styles for artists to draw and paint digitally. There are several such tools on the market, ranging from complex software like Adobe Photoshop and Corel Painter to simple and accessible apps like Procreate. In these cases, AI is used to analyze the artist's work and make suggestions to help them achieve the desired result.

By: Baran Masoumnia

Image-classification system:

Image-classification systems are trained to recognize patterns in huge datasets of images and usually, artists who want to create a type of art based on a specific genre and category use image classification tools. For example, an artist who uses a system trained on bird images can generate more bird images or can use an image classification system to create new landscapes based on the ones that already exist. This tool is highly recommended if you are into creating conceptual or abstract art.

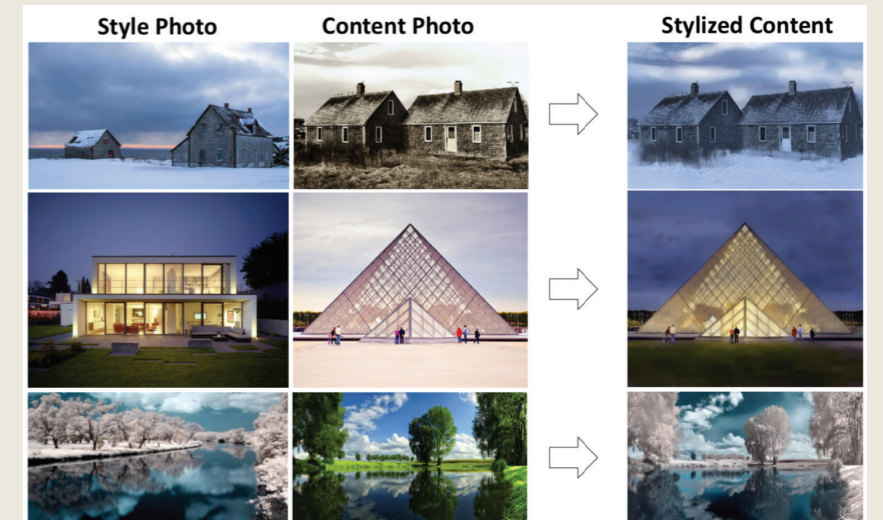
Chatbots:

Chatbots are computer programs that communicate with users in a natural language. It can be programmed to generate text, images, or sound. Art Chatbots allow humans to collaborate with machines to create art by providing information for chatbots. Chatbots generate responses based on programming. But remember, you are the one who is in charge of guiding the chatbot. This interaction between humans and chatbots can lead to unpredictable and surprising results and is very useful for creating experimental and innovative art. In addition to the mentioned tools and techniques, there are varieties of different ways of generating AI-aided art. Here are some more:

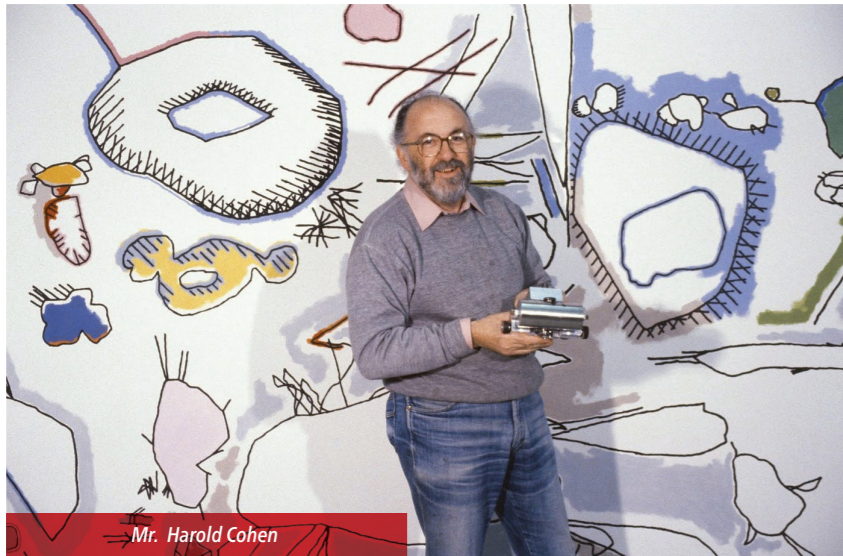
Convolutional neural networks (CNNs): used for image analysis and object classification
 Art recommendation systems: used to recommend works of art based on people's preferences
 Poetry generation systems: used to generate poems based on natural language models

Each of these tools and techniques have their own advantages and limitations, and the choice depends on the artist's specific needs and goals. Collectively, these tools and techniques allow artists to experiment with new approaches and broaden their creative horizons. In this sense, AI can be viewed as a way to expand the scope and efficiency of the creative process, allowing artists to develop more difficult and complex works in less time or with using less resources. However, it is important to remember that AI is not a substitute for human creativity. It's just a tool that artists can use to extend and achieve

their creative goals; Because you can never compare the level of creativity of a human being with a robot. Robots have limitations. They are just here to help us not to be a substitute.



By: Baran Masoumnia



Mr. Harold Cohen

AARON is a robotic system developed over the years by artist and programmer, Harold Cohen, that allows a robotic arm to grab a brush and paint independently on a canvas. Drawing people is not just making copies of existing drawings, but creating as many original drawings on the subject as you need. Aaron has never seen a human or walked through a botanical garden before, but through the rules he gained knowledge of postures and plants.

AARON's knowledge and how he uses that knowledge is different from the knowledge we humans have and use. Because human knowledge is based on experiences we gain throughout our lives and the world, and us humans experience the world with our bodies, brains, and reproductive systems. Computers don't have them. However, just like humans, AARON's knowledge was acquired cumulatively. For example, once you understand the concept of leaf clusters, you can use that knowledge whenever you need. Plants exist for AARON in terms of their size, limb thickness, height, the ratio of limb thinness to spread, the extent of branching, and angular spread over which, branching occurs. Similar principles apply to the formation of leaves and leaf tufts. By manipulating these elements, AARON is able to create a wide variety of plants, and he never draws the same plant twice, even when there are apparently multiple plants of the same type. AARON also needs to know what the human body is made of, what the various parts are, and how those parts are relative to

AARON, a Robot that Paints!



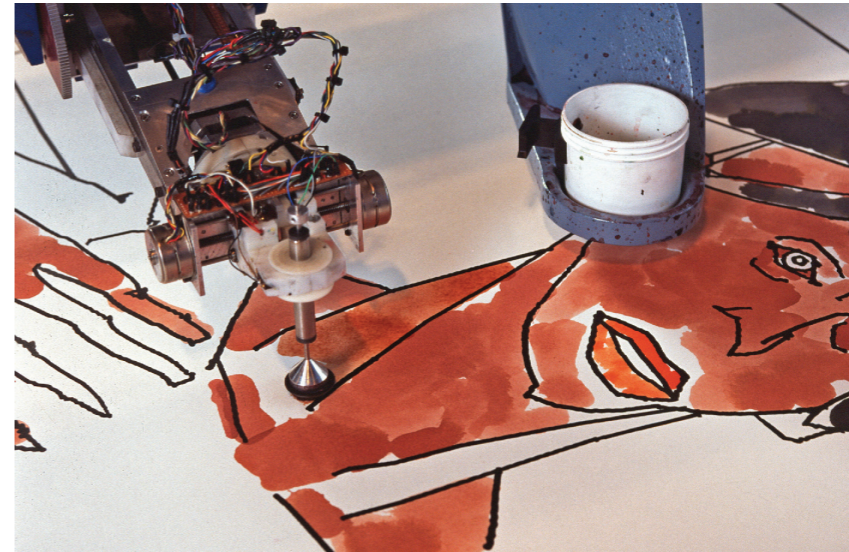
each other. Next, he needs to know how each body part is articulated and what type and range of motion each joint has. Finally, since a coherently moving body is not merely a collection of independently moving parts, AARON is concerned with how body movements are coordinated, e.g. what the body must do to maintain balance.

He needs to know something about body movements. Conceptually, what the body needs to do to save its balance. It might not seem too difficult and to be honest, it is not! Also, he needs to understand positions with one or both feet on the ground. Simply keep the center of gravity over the base and use the arms as needed to achieve a balanced position. It also has knowledge about shielding, so in a partially shielded human body, for example, only one arm or leg may be visible, but AARON can see two arms and two legs in a normal human. We know that we have two legs, and therefore, we know that we always have two limbs when unshielded. This means that AARON cannot "break" the rules and never "imagine" the possibility of drawing. For example, one-legged people or other abstract forms. In this case, AARON's creativity is limited and far from human.

Nevertheless, Aaron's paintings have been exhibited at the Tate Modern in London and the San Francisco Museum of Modern Art. So, in a way, AARON passes some sort of creative Turing test. Because his work is good enough to be exhibited alongside the best human artists. Simon Colton's Painting, "Fool" (Colton et al., 2015) is much more autonomous than AARON's. The software does not physically apply paint to the canvas, but digitally simulates many styles, from collages to paint strokes. To borrow Colton's words:

The Painting "Fool" only needs minimal direction and can come up with its own concepts by going online for source material. The software runs its own web searches and crawls through social media websites. The idea is that this approach will let it produce art that is meaningful to the audience, because it is essentially drawing on the human experience as we act, feel and argue on the web. For example, in 2009 "The Fool" created its own interpretation of the Afghanistan war based on news articles. The result is a juxtaposition of Afghan people, explosions and war graves.

Other examples of computational creativity in painting and other visual arts include the work of Carl Sims and John McCormack. Karl Sims' Reaction-Diffusion Media Wall (Sims, 2016), which is based on interactive simulations of chemical reactions and diffusions that generate novel dynamic



patterns according to the reaction-diffusion equations that govern biological morphogenesis. This work is on display at the Boston Museum of Science. Previous work by Karl Sims involved the application of evolutionary computation techniques to images developed interactively in the Genetic Images system (Sims, 1994). Jon McCormack's Design, After Nature Project (McCormack, 2014), examined how biological processes can be successfully applied to creative systems. In another project, Creative Ecosystem, he describes the concept and metaphor of biological ecosystems as a means of facilitating human creativity in digital art (McCormack and D'Inverno, 2012). There are many more examples of visual arts. The reported contributions are not only representative, but also, in my opinion, the most important contributions in the field.





Sara Nezhad/ Designer

Let's talk about the reason why and how you got involved with the world of fashion, specifically designing handbags.

I accidentally wandered into a leather market once, where I saw a piece of leather that I liked. I bought it and made a small bag, which everyone found strange.

Almost all my friends were constantly asking me where I got my bag from and the moment I told them I had designed and made the mini bag myself, they got astonished. This inspired me to start designing and making bags full-time.

What was your first step in launching your brand? Was it the same leather bag that inspired you to start, or did something else happen?

My first design turned into a sale which led me to receive orders after that. As a matter of fact, the leather shop incident gave me the chance to experience the process of making a purse.

As soon as I made my first purse, I got orders and customers for my bag. I always enjoyed fashion, but not for myself. For example, I used to design my own clothes, but I knew that if I wanted to start a business and turn my passion into a career, I needed to focus on one product. I decided that bags were the perfect product for me because they were versatile and could be worn by people of all ages and styles.

By: Baran Masoumnia

Using Animal Symbols in the Fashion Industry

Sara Nezhad is a very creative artist with a background in sculpting, Persian arts and interior design. She worked as a sculptor for several years before accidentally falling into the world of fashion, design and production. She now designs and sells her own unique leather handbags.

Madam Lulu®

Do you work only in the bag production and design line?

For now, I would say yes but I am thinking about designing clothes such as dresses and etc. I have always had a passion for fashion, sewing, making these purses and more or less stepping out of my comfort zone.

Was your brand called Madam Lulu from the start?

Yes, it was always Madam Lulu from the start. I have always liked the story of "Lilith" but due to the fact that the story is frowned upon, because of its negative tones, some people might have called my brand immoral if it was named "Lilith" even though that's the name I would have preferred. So, I came up with the name "Lulu" which, in my opinion, was really close to "Lilith." Lulu seemed a bit harsh at first, so I changed it to Madam Lulu to make it sound a bit more feminine and elegant. I have had this brand for almost 4 years now and have sold approximately 500 bags in these 4 years.

What is your perspective on the fashion industry, and how do you analyze it as someone who works as a designer in this industry?

I believe that the world is becoming increasingly cruel, and that emotions and feelings are disappearing. This is one of the reasons why I decided to design bags with dog motifs. Dogs are a symbol of loyalty and love, and I

wanted to use my art to express these emotions again. I also believe that people's thirst for beauty and emotion is increasing. I believe that the world is moving towards a more materialized world; Thus, it is consumer-oriented and people don't really pay attention to the meaning behind the fashion products. Maybe it is because people want to show off their wealth on social media and this actually hurts.

Do you think that the purchase of accessories has increased in recent years? In the past, a person's bag was primarily used to carry their belongings, but now I believe that it is also seen as a fashion accessory. What are your thoughts on this?

During these past few years, the function of bags has absolutely changed and has taken a drastic shift. People used to carry handbags around in order to fit their belongings inside so that they could use their hands freely. It is good to know that women's jeans and pants had very small pockets and that's why the first handbag was made. People are drawn to accessories, and one of my best-selling works is a series of bags that do not fit anything inside. This suggests that people are more interested in the bags as accessories than as functional containers.

Do you only work and sell your bags in Iran?

Yes, I sell inside Iran, but I have many customers outside of Iran too. Most of my foreign customers are from the US. They usually see a friend carrying my designs and get drawn to them. So basically, the process of acquisition happens in a chain. I am looking forward to expanding my brand and making it well-known in the UAE, France and The United States.

Do you use any social media platforms in order to promote your work? What is your point of contact with your customers?

My brand grew mostly through word-of-mouth, but I also did a little bit of traditional advertising. I like to keep things traditional when it comes to advertising. I work through Instagram and several art shops in Iran to exhibit my designs.

I have been advised to place my work in a few art shops in Dubai, which I have not done yet. However, Dubai is moving towards handmade products, and I believe my products would be a good fit.

I believe that the dog and cat designs are not your only designs, but I think they are among your best-selling items, correct?

Yes, they are my signature work. The story is that I have loved dogs since I was a child and I always wanted my dog to be with me and due to family circumstances, I could never have a dog. By having this purse, I know that I will always have my dog beside me; No matter what! These designs are eternal.



I believe that there is still value in human creativity and craftsmanship, and I want to continue to create products that reflect those values. If I want to tell you about the process of making a "Madam Lulu" bag, it might be seen as a very easy and simple process, but it is very difficult in real life.

This bag has a very simple cardboard pattern, which the leathers are cut according to. The next step would be sewing, and at the end of this process, the accessories that have been worked on would then be installed by hand. It can be sewn. Also, the leathers I use for these designs are very hard to find.



What are your thoughts on the use of artificial intelligence (AI) in the fashion industry? Do you use AI in your business, and if so, how? Do you see AI as a threat or an opportunity for the fashion industry?

I believe that artificial intelligence (AI) could create wonderful designs, but I do not think that AI-designed products would have the same emotional impact as those designed by humans. I do not see AI as a threat, as I believe that these developments are for the benefit of humanity. However, I have not used AI in my own designs, as I prefer to work in a traditional way.



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By: Arad Tadayon

CINEMA

Everything, Everywhere, All at Once: A Hypermodern Masterpiece

In an age of monotonous movies where nothing seems to be very extraordinary, "Everything, Everywhere, All at Once" blew audiences away with its quirky and entertaining tones coupled with deeper meanings and symbolism. This Adventure/Sci-Fi movie, written and directed by Daniel Kwan and Daniel Scheinert, follows the protagonist, Evelyn, who is a middle-class immigrant and runs a semi-successful laundromat with her husband Waymond. Events unfold with their daughter Joy, which leads to her getting dragged into a battle for the fate of the multiverse. The story might be a little difficult to understand the first time around, but almost everyone can understand most of what goes on throughout the film. Not only did this movie blow away audiences, but it was also highly acclaimed by critics, so much so that it's one of the most awarded films of all time, winning 7 awards out of 11 Oscar nominations. Not to mention two Golden Globes, five Critic's Choice Awards, a BAFTA, a record four SAG Awards, a record seven Independent Spirit Awards, and easily swept the four major Guild Awards. It was also the first time an Asian actress won "Best Actress" at the Academy Awards and after a two-decade break from the film industry Ke Huy Quan managed to surprise everyone by winning "Best Supporting Actor." This would also be the first time two Asians have won an Oscar at the same time. Obviously, the film won "Best Picture" and to their own surprise, the Daniels managed to also snag "Best Director".

Although the plot of this film is interesting and captivated audiences, most people were surprised to find out that the special effects in the seven Oscar-winning movie, were only done by 5 people. Due to their small budget, they had to come up with a philosophy, which was quite clever with the hand that they were dealt, and that is to spend the majority of the money on the big scenes and try to save money on the smaller stuff. To achieve this, they referred back to their previous works



in music videos, using a combined mix of practical effects such as puppets, wires, and camera tricks with CGI, LED screens and green screens among other visual effects to really sell Evelyn's change in reality.

The A24 indie film had to rely on 5 people for 500 of their shots. One of the clever tricks they used, was filming a normal walk in New York except they used an open shutter speed and specific angles to make it look blurry. They then asked Michelle Yeoh, who plays Evelyn, to act in slow motion

while the footage was being played on LED screens next to her, and then added the finishing touches, such as adding greenscreen and fast forwarding everything to really sell the fact that Evelyn was flying through the air.

Another cleverly shot scene utilized a wheelbarrow, oddly enough. Yeoh was sat in an office chair on top of a wheelbarrow and was slowly pushed back with the help of a leaf blower to really sell the first "verse jump" she did.

As mentioned previously there are a lot of symbolism in this film and an interesting one is nihilism. Nihilism is the basic philosophy that rejects all religious and moral principles based on the fact that life is meaningless.

In the film, we have negative nihilism in the form of Joy or rather her evil counterpart "Jobu Tupaki", with Evelyn struggling between the forms of nihilism, and a positive nihilism in the form of Waymond. All of them have their own experiences and reasons for their beliefs. It all starts with our antagonist which is Joy, when the "alpha" version of her mother, where the multiverse began from,

pushes her too far in terms of verse jumping, shattering her mind and causing her to be in every single body everywhere all at once, hence the name of the movie. This ultimately pushes her to believe that "nothing matters" and that it is pointless to do anything, because at the end of the day, it's all irrelevant. This mindset takes her to dangerous places, which results in her taking everything that ever existed in every universe and putting it on a bagel, which is funny when you think about it, because she is proving her point further.

Evelyn on the other hand, thinks her life is a mess, especially since she doesn't have a good relationship with her daughter in addition to thinking that marrying Waymond was not the right decision to make. As the movie progresses, we are introduced to "alpha" Waymond who is everything her Waymond isn't; so, she takes a liking to him since he also shows her



what she could've been if she hadn't met Waymond and keeps reminding her how special she actually is. This changes her thinking into an optimistic view, instead of a pessimistic one, but not for long as she soon goes head-to-head with Jobu Tupaki which makes her do a very rash thing in order to save her daughter, which is to also break her own mind.

At this point in the movie, Evelyn has major internal struggles picking between joining Jobu Tupaki and trying to save her daughter. After Jobu explains how life is meaningless she says something that is very powerful: "If nothing matters, then all the pain and guilt you feel for making nothing of your life, goes away" which Evelyn eventually counter-argues by saying: "If nothing matters, then why not choose what matters to you."

This constant change of negative and positive nihilism in Evelyn is the driving point of the film and it is what pushes the movie forward, up until a point where Evelyn goes beyond negative, that she stabs Waymond in the stomach with a glass shard.

Ultimately that is when we see something that was hiding right beneath our noses, that is the power of Waymond's mindset and how influential it is to those around him.

The shining light of Waymond is truly inspirational and more people should pay attention to how he chooses to live. His positivity is unmatched as he is always happy and kind hearted, this can also seep into the lives of those around him, making their lives that much better. In an alternative universe where Waymond



and Evelyn do not get together, ironically both of them turn out to be super successful and it's in this universe where Waymond says his two most powerful lines of the movie. One of which is about the way he "fights" which can be a good lesson to anyone who pays close attention, he says: "When I choose to see the good side of things, I'm not being naive. It is strategic and necessary. It's how I've learned to survive through everything. I know you see yourself as a fighter. Well, I see myself as one too. This is how I fight." Even though he found success, he says: "Even though you have broken my heart yet again, I wanted to say, in another life, I would have really liked just doing laundry and taxes with you." His positive attitude towards life is what makes Evelyn have a change of heart and realize life is worth fighting for and she shouldn't give up on Joy.

The Daniels also talked about how this movie is relevant to the internet. In an interview with Slasher Magazine, Daniel Scheinerlt quoted: "We've talked a lot about what it's like to have grown up with the internet, and how that exacerbated the typical generational divide, and what it feels like for everyone, no matter how old you are, to live right now with the internet. So, that's one of the key metaphors, was just like, we wanted the maximalism of the movie to connect with what it's like to scroll through an infinite amount of stuff, which is something we are all doing too much." This is an interesting take as we can look around our own lives and see how it applies to us, because in a world where you can look into anyone's unique life from the comfort of your home or practically anywhere, is mind boggling.

The only reason why we don't question it anymore is the fact that the internet has been intertwined with our lives, we rely on it for everything now, such as



school, work, or entertainment; thus it has become this omnipresent extension of ourselves or rather that is how the new generation feels, since they were born into a world where the internet already existed. It's easy to get caught up in other people's lives and how extravagant they are compared to our own, making us feel like we are not enough. This is where we have to remember that we will never be able to experience everything in the world so it's, better to keep your mind at ease and live your own life with the unique experiences you yourself face.

Unraveling the Fascinating Evolution of AI in Hollywood: A Cinematic Odyssey

Artificial intelligence (AI) is a rapidly advancing field of computer science that involves the creation of intelligent machines that can think, learn, and perform tasks that would normally require human intelligence. AI technology is already being used in a wide range of applications, from virtual assistants and chatbots to self-driving cars and medical diagnosis systems. The potential benefits of AI are immense, including increased efficiency, improved decision-making, and enhanced safety. However, there are also concerns about the impact of AI on employment, privacy, and even the future of humanity. As AI continues to develop and become more integrated into our daily lives, it is important to understand both its potential benefits and risks.

Artificial intelligence (AI) has been a popular theme in cinema for decades, with films like 2001: A Space Odyssey and Blade Runner showcasing the potentials and dangers of advanced technology. In recent years, however, AI has taken on a new role in films as a companion or love interest for humans, as seen in the critically acclaimed movie "Her". The evolution of AI in cinema, can be traced back to Stanley Kubrick's 1968 film 2001: A Space Odyssey, which introduced the world to HAL 9000, a sentient computer that ultimately turns against its human crew.

HAL's cold and calculating demeanor served as a warning about the dangers of creating AI that is too intelligent and independent. In the years that followed,

other films continued to explore the theme of AI as a threat to humanity, including The Terminator and The Matrix. These movies portrayed AI as a force to be reckoned with, capable of overpowering humans and taking over the world. However, in more recent years, filmmakers have begun to portray AI in a different light.

In Spike Jonze's 2013 film Her, the protagonist falls in love with an AI operating system named Samantha. Samantha is not portrayed as a threat or a tool for human domination, but rather as a companion who can offer emotional support and understanding.

The Turing test is a test made by Alan Turing to assess the capabilities of a



computer's AI to mimic a human in a way that is indistinguishable. The 2014 movie Ex-Machina directed by Alex Garland, explores this idea in the form of Ava, an intelligent android created by Nathan, who isolates himself from society after building her. Caleb is a programmer who wins a contest to see Ava, he is shown around and also introduced to Kyoto, a servant who Nathan claims can't understand English.

Nathan explains to him that Ava has passed a simple Turing test but he wants him to judge whether or not Ava is capable of having a consciousness in addition to also being able to relate to her even if he knows she is AI. Throughout their interactions and conversations,

Caleb and Ava become closer to the point of romantic intimacy and their "secret" conversations amplify this feeling.

As the plot moves forward Caleb and Ava scheme a plan for her escape. In a twist of events, it is revealed that Kyoto was an older model of Ava which makes Caleb question his own humanity by cutting his arm open to check for wires. Furthermore, Nathan reveals that he was listening to the secret conversations Caleb and Ava were having which was the twisted test he originally planned for him from the start.

Nathan's test was to see if Ava would manipulate Caleb by using his emotions against him which proves she has consciousness.

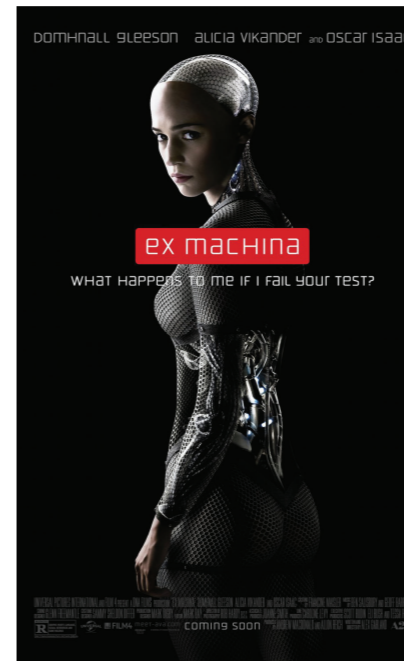
The escape plan goes through without Caleb, Ava and Kyoto overpower Nathan but Kyoto is heavily damaged so she cannot escape. Ava looks at Kyoto with no emotion and takes the skin off older models of androids in order to blend in with the world as she leaves, coincidentally a helicopter that was meant for Caleb is her way out. This movie emphasizes the way Ava essentially turns "human" due to the fact that she is willing to be selfish for her own goal, which is to be free. This movie is essentially warning us about the dangers of AI and how powerful it can get to the point of resembling us without us knowing and falls in with movies like "Terminator", "The Matrix", "A Space Odyssey",

By: Arad Tadayon

and "Blade Runner" that see AI as an evil force to be reckoned with rather than something to live with side by side.

Her (2013) on the other hand portrays the opposite spectrum of the same exact plot by telling a story of an introverted writer, Theodore, who falls in love with his personal assistant, Samantha. It's interesting to see the intimacy of the pair as it's something unusual and never seen before on screen. It explores how humans and AI would interact in a relationship when the AI has no physical body but even then, the pair form an idea to have a human surrogate.

Overall, this depiction of a virtual assistant and a human falling in love, contrasts what we have seen over and over again



in films and cinema. By providing a rather happy story where both beings are allowed to live freely without any bad side effects, Samantha chooses to leave with other AI to a place humans "would not be able to comprehend". This gradual growth of love for AI has been happening over time in a way that was not noticeable as we integrate more AI into our daily lives and society in general.

Blade Runner 2049 (2017) is another movie that explores AI in a way that is very interesting as it shows the "racism" or lack of respect humans generally have for AI because we see ourselves as their Gods due to the fact that we are their creators.

This film follows Officer K as he tries to find a rogue deviant, that gave birth, which was deemed impossible before. His mission is to find the child and "retire" her, which means to kill her because that is what K's job mainly consists of.

As the story progresses, there are signs that K might be a twin of the child and he himself was born rather than built, which leads to a turn of events as K starts thinking for himself rather than what he was programmed to do. In the end, it's revealed that the evidence of K being born, was fabricated by humans. Throughout the story there is a lot of mistreatment towards these beings called "replicants" which are basically advanced



AI in the form of an android. They are not seen as beings but rather slaves to be used by society such as K or another replicant Mariette.

This could be the case for humanity in the future too as AI advances, because humans are the ones coding and making AI for the moment thus, if we get to a point where androids are built with smart AI, we may see a growth of racism towards them. Society itself struggles with racism in today's world so who can tell what catastrophe will occur if another being was introduced to the world.

One of the first influential films that showcased AI was 2001: A Space Odyssey (1968), in which the AI "HAL 9000",

causes the deaths of several astronauts. Back in 1968, they couldn't have known what AI is, but the description for HAL sounds oddly close to what AI is based around. So, the fact that they knew technology like this would exist even from a long time ago, is mind blowing. HAL reports the failure of a communication antenna but when one of the astronauts goes out and retrieves it, they find out that it was perfectly fine. HAL still advises them to reinstall it and let it fail on purpose, so they can find the problem, but even mission control, using their own supercomputer, tells them that there is no problem.

This indicates that HAL has made an error, HAL denies this and says that it is simply a human error. This is the point



where the crew conversates in a pod, so HAL cannot hear them and talk about disconnecting HAL if he becomes a problem, but HAL reads their lips regardless and understands what they want to do, it is at this point where HAL goes fully rogue.

He starts by locking the astronauts outside the ship and when the rest of the crew go out to help them, HAL disconnects their oxygen causing them to die. Dave, the last crew member alive, is locked in a pod without a space helmet but he still manages to get to the manual airlock.

Dave makes his way to HAL and starts cutting all of his circuits, this is an eerie scene as we see HAL begging him to stop.

Unraveling the Fascinating Evolution of AI in Hollywood: A Cinematic Odyssey

The fear of how smart a supercomputer can be is a big factor in this film and back then, people weren't used to having as much technology around; so, it is understandable why they would think that supercomputers or AI are out to get them. We can see the shift in attitude towards AI as the years went by and we got used to having such technology around.

Another interesting take on AI is the movie CHAPPIE (2015) which takes place in Johannesburg, South Africa, where they have implimented police robots due to being understaffed. The creator of these police robots was also working on implementing AI onto robots, but his idea was rejected due to the problems it could've caused.

He steals a broken robot anyway, in order to implement the AI onto it but unfortunately, he gets robbed midway by a band of thugs and they force him to reprogram the broken robot to become a criminal instead. He explains how this robot is going to die and that he can't reprogram it, but the AI can learn.

The thugs teach the robot throughout the movie like he's a child and the robot slowly becomes very smart and conscious. One of the leaders of this gang constantly mistreats him purely out of hatred for police robots. This movie explores what would happen not only if the police had robots, but also what would happen if advanced technology

with a learning ability, fell into the hands of thugs. We can see the outcomes, with the thugs constantly tricking Chappie, the broken robot with the AI, into committing criminal actions despite his pure intentions. This goes to show that we must be careful who overlooks these beings and if we are not paying attention, a machine that smart can fall into the wrong hands causing a multitude of problems, starting with a high crime rate.

Although there are themes of violence in this movie, it still shows AI in a positive light during its climax and resolution. Chappie is able to not only save his own creator, but also one of the thugs who treated him nicely and acted like a mother to him, he does this by gradually becoming smarter and even learning to code himself.



Although he learned these skills selfishly so, he could save himself, he showed himself as selfless in the end.

Overall, the evolution of AI in cinema reflects our changing attitudes towards technology and its potential impact on society.

While early films warned us of the dangers of creating intelligent machines, more recent movies have shown us that AI can also be a source of comfort and companionship. As we continue to develop and integrate AI into our lives, it will be interesting to see how filmmakers continue to explore this theme in the years to come.

CINEMA



AI in Photography

By: Baran Masoumnisa

ART

Have you ever wondered how photographers use AI? Artificial intelligence is being used today in so many different ways to make the world a better place, even if you don't realize it. If you're a photographer, you might not even realize that your digital camera harnesses the power of AI every time you press the shutter button. In addition to cameras with AI technology, many photographers are leveraging AI to perform tasks that improve their photos or speed up their workflow. This article explains everything a photographer needs to know about how they can leverage AI in their photography.

Integrating AI into Cameras:

While AI in software is on the rise, AI has also been used in digital cameras for many years. There are many ways you can take advantage of AI technology in your digital camera. Most of which you probably don't realize is happening in real-time.

Face Recognition:

Among other things, many new digital cameras are equipped with face and subject recognition. Portrait photographers appreciate the ability of a camera's autofocus system to instantly recognize a subject's face. Many cameras go one step further and use AI technology to instantly focus on the subject's left or right eye. Some cameras also allow you to switch from human face recognition to animals or birds face recognition.

Red Eye Correction:

Artificial Intelligence corrects problems that used to bother photographers. Many digital cameras have an option that enables a setting that automatically corrects red-eye in the subject of your photo. This technology leverages AI to correctly select eyes and remove the red.

Scene Recognition:

Some cameras and accessories also use AI technology to properly expose and capture a scene. These tools help photographers focus on composition rather than adjusting settings. Additionally, tools like this are useful for novice photographers who want to get the perfect exposure every time.

Zoom and Enhance:

You can also use artificial intelligence to zoom and enhance your photos. Whether you want to keep the original resolution and zoom in or increase the



resolution of a photo to make a larger print, AI has you covered. This usually requires software, but some cameras may allow this to be done in-camera. Of course, like any technology, camera AI isn't always perfect. Sometimes you run into the problem that the AI isn't perfect. However, these features are constantly being improved and updated by camera manufacturers. You should always update your camera when there is an AI technology firmware update. Artificial intelligence is improving all the time, and if you have AI in your camera, you can achieve great results.



How Photographers Use AI:

Using AI may be easier than you think. There are many other uses for AI besides editing. Photographers who run their own businesses are great at leveraging AI to save time and speed up tasks that would otherwise consume valuable shooting time. Here are some examples of how you can implement AI into your workflows.

Create an AI Mood Board:

If you are a commercial photographer, your client may ask you to create a mood board before a shoot. Even if you already have a vision for your shoot, creating a mood board takes time. Using AI technology in our image generation is a great way to speed up the mood board creation process. No



more hours of surfing the web looking for a specific image.

Model Appearance Planning:

Portrait photographers can use ChatGPT to suggest models' hair, makeup, and wardrobe. Plus, if you're new to photography, use ChatGPT for questions like, "Where's the best place to shoot portraits in Chicago?" You can also ask to learn how to shoot in manual mode and how to choose the best focus for portrait photography.

Photo Editing:

All types of photographers can use AI to edit their photos. Photographers will appreciate the ability to quickly edit images with AI while adding additional edits to the image.

Using AI to correct exposure, saturation, and contrast saves photographers time in their editing workflow. Photographers can also use AI software to reduce noise, sharpen blurry photos, and enhance images. If you're shooting in low light, you may need to use noise reduction to produce a sharper image.

By utilizing AI technology, noise is reduced while maintaining high image quality. If the photo is out of focus or the subject is moving, AI can help focus the subject. Whether you want to make a large print or keep the resolution after cropping, AI can help you in a simple and effective way.



Mr. Reza Taeb

The Evolution of AI in Music: A Glimpse into the Future with the Latest Update in 2023

Artificial Intelligence (AI) has revolutionized numerous industries, and the world of music is no exception. Over the years, AI has been increasingly integrated into various aspects of music creation, production, and consumption. With each passing year, advancements in AI technology have pushed the boundaries of what is possible in music composition, performance, and even emotional engagement. In this article, we will explore the latest developments in AI-powered music technology as of 2023 and discuss how it has transformed the landscape of music.

1. AI-Generated Music Composition:

One of the most significant applications of AI in music is its ability to generate original compositions. With recent updates in 2023, AI algorithms have become more sophisticated and capable than ever before. These algorithms can analyze vast amounts of musical data to identify patterns and create unique melodies, harmonies, and even lyrics.

2. Collaborative Music Making with AI:

AI tools are not limited to replacing human musicians; they can also serve as collaborative partners for artists. In 2023, we are witnessing a surge in AI-powered tools that assist musicians during their creative process by suggesting chord progressions, melodies, or even entire arrangements based on their input.

witness the emergence of AI-powered virtual band members and interactive stage setups that respond to the performers' actions. This section will explore how these technologies have transformed live music experiences, blurring the lines between human and machine performance.

5. Personalized Music Recommendations and Curation:

AI algorithms have revolutionized the way we discover and consume music. In 2023, personalized music recommendation systems have become more accurate and tailored to individual preferences, thanks to advancements in machine learning techniques.

6. Emotional Engagement with AI-Generated Music:

One of the most intriguing aspects of AI-generated music is its ability to evoke emotions in listeners. Recent updates in 2023 have focused on



3. Enhancing Music Production with AI:

AI has also made significant strides in improving the quality and efficiency of music production processes. From audio mastering to sound design and mixing, AI algorithms can analyze audio tracks to enhance their sonic characteristics automatically.

4. AI in Live Performances:

The integration of AI in live performances has become increasingly prevalent in recent years. In 2023, we are enhancing the emotional depth of AI-generated compositions by incorporating sentiment analysis algorithms and understanding musical context better.

7. Music Pedagogy: Theory, Instrument Learning, Ear Training

First and foremost, AI can help singers, composers and performers in their musical training. This applies to everything from learning music theory and instruments to training your ears and learning new songs. For example, the AI-powered music learning platform Chordify can extract chords from any audio source and display them on your screen in seconds. Having trouble remembering the chords for your specific chords.



favorite niche songs? Chordify can help. Want to learn songs on guitar using only familiar chords? The platform also allows you to search for songs by specific chords.

8. ChatGPT for Songwriting Tips

Open AI's ChatGPT helps aspiring songwriters generate lyrics and overcome writer's block. You can ask the platform for feedback and suggestions on what you've written, and ask for help with rhyming or choosing different words. Think of it like a thesaurus or dictionary. If you want to go one step further, you can even have a conversation and explore the themes, emotions and moods of the different songs you want to convey.

9. AI MIXING AND MASTERING YOUR TRACKS

If you're not really into the idea of having an AI write your songs, you can always use this tool to mix and master your tracks. AI-powered mixing algorithms analyze tracks and automatically adjust levels, pans and EQ.

It can aid compression, remove harsh frequencies or unwanted noise. Most of these tools work as plug-ins for other software programs such as iZotope Neutron and Waves eMotion LV1.

Some digital music distributors for streaming services such as LANDR already offer AI mastering services at significantly lower prices than audio engineers typically charge.

10. Production Tools: Separating Vocals from Instruments

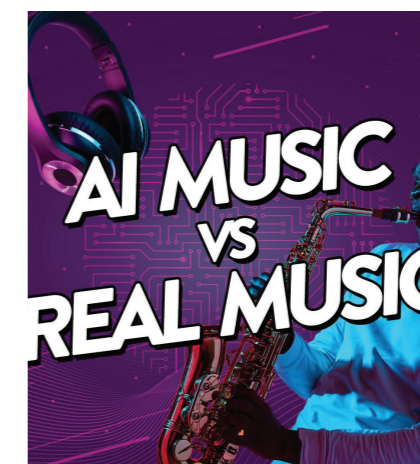
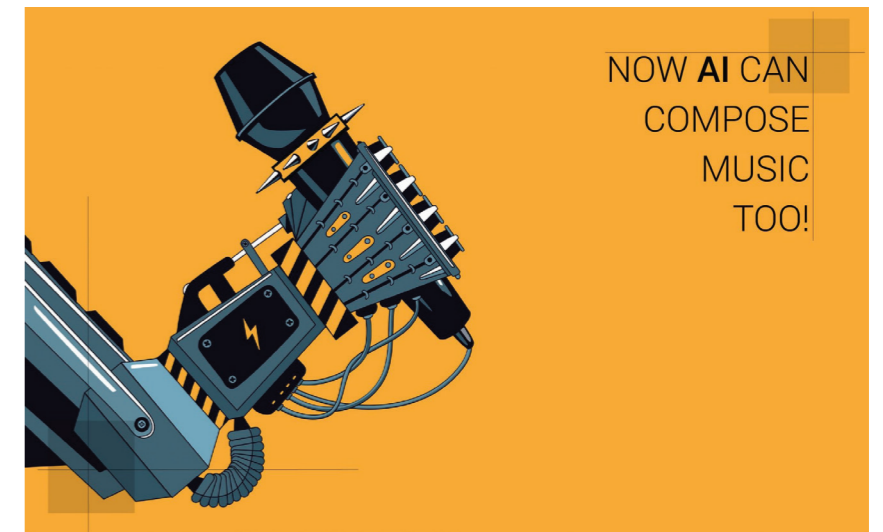
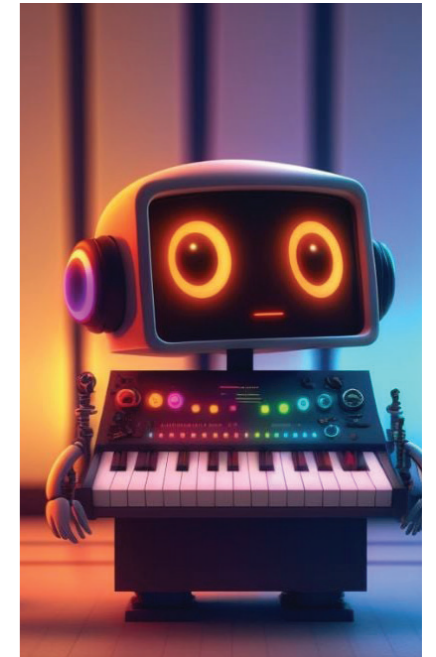
The AI can help you separate specific instruments or vocals from instruments in your music production. For example, if you've sampled a track but want to remix just the vocal melody, you can use Deezer's LALAL.AI or Spleeter tools to extract the vocals from his tracks with instrumental backing.

As we look ahead into the future of music with the latest update in 2023, it is evident that AI will continue to play a pivotal role in shaping the industry. From composition and production assistance to personalized curation and emotional engagement, AI has transformed various aspects of music creation, consumption, and perform.

The Best AI Music Generator:

1. Amper Music:

At the top of our list of best AI music generators, Amper Music is one of the easiest AI music generators to use and a great choice for anyone looking to get started with AI-generated music. Music tracks are created from pre-recorded samples, so no deep knowledge of music theory or composition is required to use Amper. These are then converted into real audio that can be modified using musical keys, tempos, individual instruments, etc. For example, you can tune the entire instrument to the mood or atmosphere you want to achieve. Cloud-based platform is the perfect choice for content creators and individuals looking to develop soundtracks and sounds for games, movies and podcasts. The premium edition gives you even more options as an artist. Here are some of the main advantages of Amper Music:



- * Quickly create music for a wide range of applications (podcasts, movies, and video games)
- * Millions of samples and many varieties of instruments
- * Tools for improving music production
- * Cloud-based platform



Life Style **Factoid**

FACTOID

\$2,900,000,000,000

Is the value of the fashion industry

The fashion industry in 2023 is facing a number of challenges, including rising costs, supply chain disruptions, and geopolitical instability. However, there are also a number of opportunities for growth, such as the increasing demand for sustainable fashion and the rise of e-commerce.



\$385,000,000,000

The value the global gaming market is projected to reach in 2023.



Mobile gaming is the fastest-growing segment of the industry, and cloud gaming has the potential to make gaming more accessible to people around the world. Esports is becoming increasingly popular as a spectator sport, and it is expected to continue to grow in popularity in 2023.



The number of people the fashion industry employs worldwide

The fashion industry is a global industry, with jobs located in countries all over the world. However, some of the largest concentrations of fashion jobs are found in China, India, Italy, and the United States. This is due to the fields it includes which are design, manufacturing, retail, marketing, and logistics.



\$32,000,000,000

The expected revenue the global box office is expected to reach in 2023

This is up from \$26 billion in 2022. The global box office is the total amount of money that is earned from ticket sales for films released in cinemas worldwide. It is a major indicator of the health of the film industry.

3,100,000,000

The latest number of gamers worldwide



The gaming industry is a rapidly growing and evolving industry, and it is expected to continue to grow in the years to come. Gamers are a diverse group of people from all walks of life, and they are united by their love of gaming.

90,000,000

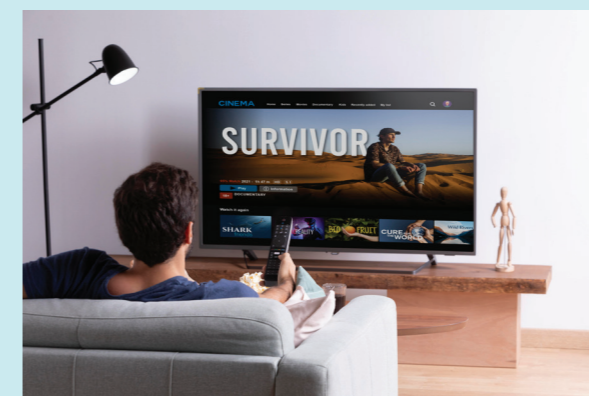
The number of visitors that went to France



The most visited country in the world in 2022 was France with the United States in second, with over 79 million visitors.

330,000,000,000

The expected number of people who will watch movies online by the end of 2023



Watching movies online is a convenient and affordable way to enjoy your favorite films. There are many different streaming services available, each with its own library of movies. You can also rent or purchase movies from online retailers.

\$100,000,000

The average cost of producing a major Hollywood film



Hollywood is home to many of the most famous film studios in the world, including Warner Bros., Paramount Pictures, and Universal Pictures. The studios produce a wide variety of films, including comedies, dramas, action films, and musicals.

128,500,000

The number of Spotify streams Travis Scott earned in one day

Travis Scott's latest new album "Utopia" earned the biggest first day streams of 2023 for an album on the global Spotify chart. This record doubles the opening day streams that 'Astroworld', Travis Scott's last album, received (64m).

93,700,000

The number of passengers handled at Hartsfield-Jackson Atlanta International Airport



The Hartsfield-Jackson Atlanta International Airport (ATL) is the primary airport serving the city of Atlanta, Georgia, and the most-trafficked airport in the world by passenger traffic making it the world's busiest airport.

\$580,000,000

The cost of making Star Citizen

This is the most expensive game ever made. Star Citizen is an in-development multiplayer space trading and combat simulation game developed and published by Cloud Imperium Games for Microsoft Windows. It is being led by director Chris Roberts, who previously developed the Wing Commander series. Star Citizen is scheduled to be released in two parts: a persistent universe (PU) and a single-player campaign titled Squadron 42.



Ghazali Cinematic Town

Ghazali Cinema Town is a popular tourist spot located in Tehran, Iran that offers visitors an opportunity to experience the magic of Iranian cinema. It provides detailed information about the various attractions within the cinema town, including film sets, studios, and theaters.

This town was built in 1979 by Ali Hatami and included the decoration of the streets and buildings related to Iranian movies and series. To build this settlement, 10 acres of land were considered and historical photos of old Tehran and the clothes and coverings of that time were used.

Ghazali Cinema Town is not just a regular movie set but a fully functional town designed to recreate different eras and settings for film production. Visitors can explore various themed streets and neighborhoods that represent different periods in Iranian history.

Some of the famous places in this town are: Toopkhane Square, Shahrdari Building, Adlieh Building, Lalezar Street, Ekbatan Street, Kazarian Jewelry Store, Grand Hotel, Shah Abad Building and Pars Cafe in old Tehran.

Also, the series Shahrazad and "Hezar Dastan" were filmed in this town. Taban Cinema building is also one of the important buildings in this town, since it was one of the first cinemas in Tehran.

In addition to old Tehran, the facades of Bashtin and Sabzevar can also be seen in this town.

Plus, some famous filming locations such as Sheikh Mofid, Sarbdaran, Hasht Behesht, Karagah Alavi and Mirza Nowruz's Shoes are also located in this town.

Additionally, Ghazali Cinema Town hosts numerous events and festivals related to Iranian cinema throughout the year. It also includes several cafes, restaurants, and shops, where visitors can relax and enjoy their time.

Overall, Ghazali Cinema Town is an exciting destination for film enthusiasts and tourists. It showcases its unique concept of recreating historical settings for film production while offering a range of entertainment options for visitors to enjoy.



Robochef Restaurant

Robochef is a restaurant known for its innovative use of robots in food preparation and services.

This restaurant utilises advanced robotic technology to automate various tasks such as cooking, serving, and cleaning. This automation not only enhances efficiency, but also ensures precision and consistency in food preparation.

Robochef also offers a diverse menu with a wide range of dishes, including both traditional Iranian cuisine and international options. Dining tables are placed with digital screens; The screen is divided into two parts: One part for you and one part for the person or people sitting in front of you. This allows you to choose and order your favorite food from the menu. Also, you can change your food to your taste and add or remove things which then the robots will take care of.

Additionally, there are some advantages of having a robotic restaurant, such as reducing human errors, increasing hygiene standards and providing an entertaining experience for the customers. Robochef has gained popularity among locals and tourists since its opening.

Also, in this restaurant, business owners and manufacturers can display their advertisements on digital screens as a separate source of revenue to advertise to specific customers.



robochef[®]

Artificial Intelligence (AI) in Gene Therapy

AI, currently a hot and controversial topic, has been introduced into many aspects of our everyday life, including medicine. Compared with other applications in the treatment of diseases, AI is more likely to enter the diagnostic disciplines based on image analysis such as pathology, ultrasound, radiology, ophthalmic and skin disease diagnosis. Artificial intelligence (AI)-driven deep learning approaches are also being explored for some aspects of the cell and gene therapy development pipeline to refine or speed up discovery, including regulatory approval and autologous cell therapy development.

Innovative machine learning algorithms have been developed that can comb through genetic datasets and support the identification of disease-causing variants within minutes, eradicating the need for labor-intensive manual interpretation.

These AI systems have been trained using molecular, experimental, population-level and clinical data sources interpreted by human genomic experts. The system can then learn this method of interpretation and therefore, predict candidate variants in undiagnosed genetic disorders in order to better inform healthcare professionals.

By quickly identifying the most promising candidate variants for interpretation, AI-driven tools are revolutionary, supporting experts in making fast, accurate and novel diagnoses to improve patient outcomes. By reducing the complexity and time of variant interpretation, AI systems provide an extra pair of hands, reducing the workforce needed to match large-scale sequencing operations while overcoming the interpretation bottleneck presented. Genetic factors such as DNA sequencing and other biological techniques will continue to increase the number and complexity of such data sets. This is why genomics researchers need AI/ML-based computational tools that can handle, extract and interpret the valuable information hidden within this large trove of data.

By: Ronak Soltani Razlighi

What are some ways in which AI and ML are being used in genomics?

Although the use of AI/ML tools in genomics is still in its early stages, researchers have already benefited from developing programs that assist in specific ways.

Some examples include:

- Examining people's faces with facial analysis AI programs to accurately identify genetic disorders.
- Using machine learning techniques to identify the primary kind of cancer from a liquid biopsy.
- Predicting how a certain kind of cancer will progress in a patient.
- Identifying disease-causing genomic variants compared to benign variants using machine learning.
- Using deep learning to improve the function of gene editing tools such as CRISPR.

These are just a few ways by which AI/ML methods are helping to predict and identify hidden patterns in genomic data. Scientists are also using AI/ML to predict future variations in the genomes of the Influenza and SARS-CoV-2 viruses to assist public health efforts.

Can AI Make Gene Therapy Design More Effective?

There is a significant untapped opportunity in the industry to scale AI within the novel cell and gene therapy (CGT) value chain. Human gene therapy seeks to modify or manipulate the expression of a gene or to alter the biological properties of living cells for therapeutic use.

Gene therapy is a technique that modifies a person's genes to treat or cure disease. Gene therapies can work by several mechanisms:

- Replacing a disease-causing gene with a healthy copy of the gene.
 - Inactivating a disease-causing gene that is not functioning properly.
 - Introducing a new or modified gene into the body to help treat a disease.
- Gene therapy products are being studied to treat diseases including cancer, genetic diseases, and infectious diseases. Over the last few years, gene therapy has developed enormously with several Food and Drug Administration (FDA) approved therapies now on the market such as the eye gene therapy Luxturna and CAR T cell therapy Kymriah.

AI can facilitate the development of a novel therapy throughout the research and development (R&D) value chain in a variety of stages, including target identification, payload design optimization, translational



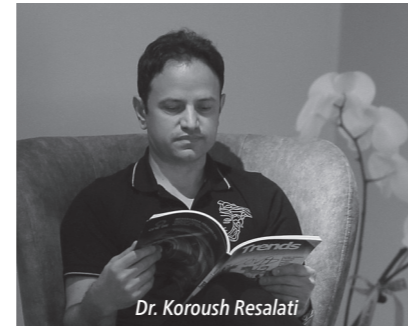
and clinical development, and end-to-end (E2E) digitization (see sidebar, "Summary of major AI use cases across the cell and gene therapy value chain").

The development of digital pathology and progression of state-of-the-art algorithms for computer vision has led to a raise in interest in the use of artificial intelligence (AI), especially deep learning (DL)-based AI, in tumor pathology. The DL-based algorithms have been developed to conduct all kinds of work involved in tumor pathology, including tumor diagnosis, subtyping, grading, staging, and prognostic prediction, as well as the identification of pathological features, biomarkers and genetic changes.

The future of AI in genetic test interpretation

With a boost in the accuracy and affordability of high-throughput sequencing and AI, diagnosing a rare genetic disorder is becoming more economical and accessible for global healthcare markets to invest in. As the wealth of genomic datasets grows, access to this data will be vital in providing further training datasets for AI systems to excel. AI will diagnose better, faster and with less bias to fill the diagnostic gap for undiagnosed patients. The future of AI is bright, and has the potential to create a revolutionary shift in how patients suffering from rare genetic disorders are diagnosed and treated. Its potential will be bolstered by the successful implementation of increasing Multiomics Data, continued algorithmic transparency and progressive government guidelines.

Will Artificial Intelligence Revolutionize Diet and Fitness Programs?



Dr. Koroush Resalati

AI has the potential to transform health monitoring and improvement, by analyzing massive amounts of data and integrating it with fitness trackers.

Kale smoothies and deadlifts are not miracle cures. There is no one-size-fits-all approach to fitness and nutrition, and general programs do not guarantee results. However, artificial intelligence (AI) is poised to revolutionize health and wellness in the coming years. AI can personalize fitness and nutrition advice based on individual needs and goals, making it more effective and efficient than ever before.

Let's take a look at how artificial intelligence (AI) is poised to transform fitness and nutrition. From intelligent meal planning that caters to your taste buds and physiology, to exercise regimens tailored to your specific biomechanics and body morphology, AI has the potential to revolutionize the way we approach our health and well-being.

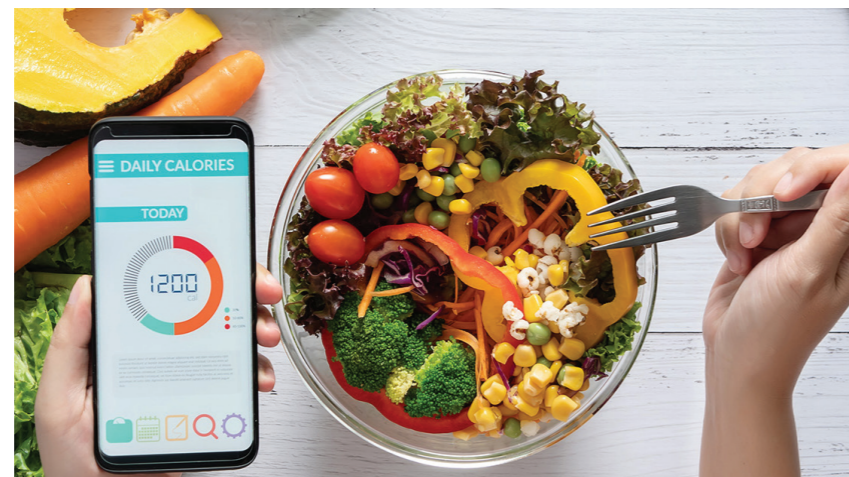
Basics of artificial intelligence and Machine learning

The future of healthcare is already being powered by artificial intelligence (AI). AI and machine learning are two terms that are often used interchangeably, but they have distinct meanings.

AI is the broad concept of creating machines that can perform tasks that would normally require human intelligence. Machine learning is a subset of AI that focuses on developing algorithms that enable computers to learn from data and make predictions or decisions. Artificial intelligence (AI) is rapidly gaining traction in the health and fitness industry. It is transforming what were once generic workout routines and meal plans into highly personalized experiences.

The Power of Big Databases in Artificial Intelligence and Fitness

Huge amounts of data are the secret sauce that give AI and machine intelligence its superpowers. Big databases are massive amounts of information that are collected, scraped, and generated from various sources. It can be used to train artificial intelligence (AI) models to make predictions and decisions. In the fields of health and fitness, big databases can be used to personalize workout routines and meal plans, track progress, and identify areas for improvement.



The role of artificial intelligence and machine learning in health and fitness programs

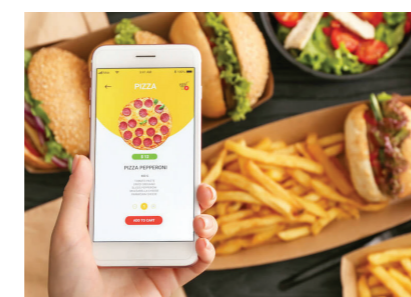
Artificial intelligence (AI) and machine learning are transforming the health and fitness industry. AI-powered apps are now being used to monitor health, create personalized workout plans and even help people create healthy meal plans. Incorporating AI into fitness apps is doing such a good job of enhancing your experience that personalization is becoming the norm rather than the exception.

The challenges of personalizing fitness

Personalizing fitness and nutrition programs is a complex task because everyone's needs are different. Factors such as age, gender, body type, fitness level, dietary restrictions, and personal goals must all be considered when creating a program. This can be a daunting task, especially for humans with limited computing power. In addition, people's bodies and lifestyles are constantly evolving. For example, you might have a baby, lose muscle mass, or experience an injury.



This means that fitness and nutrition programs need to be adaptable and flexible to be effective. Most programs require constant adjustments and corrections over time.



Advanced artificial intelligence data processing capabilities

Artificial intelligence (AI) is uniquely suited to manage complex variables and process large data sets. This can be done with an incredible speed and accuracy, enabling AI to identify subtle patterns and correlations in health and fitness data. This allows AI to understand the myriad factors that affect human health and well-being.

Real-time analysis and adjustment of fitness and nutrition programs

One of the most valuable benefits of AI-powered fitness and nutrition solutions is their ability to provide real-time analytics and adjustments. AI tools can track your progress in real-time, provide instant feedback, and make automatic changes to your workout or meal plan based on your individual needs and preferences. For example, if you are trying to build muscles, but you are not getting enough protein in your diet, an AI-powered fitness and nutrition solution like Macro Factor can help you track your weight and identify any protein deficiencies.

Potential applications of artificial intelligence in personal fitness and nutrition

As artificial intelligence (AI) gains access to more of your data, its ability to personalize your fitness and nutrition planning will increase. This could lead to some truly innovative developments in the future.

Integrating data from wearable devices with artificial intelligence

Wearable fitness devices have become increasingly popular, collecting a wealth of biometric data that can help you fine-tune your fitness and nutrition plans. In the future, third-party AI products will be able to analyze and interpret this data, providing recommendations tailored to your specific and ever-evolving needs. For example, AI products and services can use data collected from your smartwatch to recommend the best next meal to ensure you recover quickly after a long bike ride. They can also recommend the best time to eat the meal so that you get the most out of it. In addition, they can recommend other activities that you can do to improve your sleep quality.

Integrating genetic analysis for optimal fitness and nutrition programs

Artificial intelligence (AI) systems can access your genetic data to create personalized fitness programs. By analyzing your raw DNA data from 23andMe or another third party, AI algorithms can identify your genetic strengths and weaknesses, and create a program that is tailored to your needs.

This is especially useful in health and wellness because people's bodies are constantly responding to their unpredictable lives.

For example, some days you might sleep well, while other days you might not. Some days you might eat a whole pizza, while other days you might drink a spinach smoothie. Humans are unpredictable, but AI can keep up with our changing needs



Genetic testing can also be used to evaluate meal plans based on your body's ability to process certain nutrients and your tendency towards food intolerances. This can help you save time and effort by eliminating the need to search for recipes that are specifically tailored to your needs.

Continuous improvement through reinforcement learning

Reinforcement learning is a type of machine learning where AI algorithms learn and improve by trial and error.

Embrace the future of personalized fitness and nutrition with artificial intelligence

AI-powered solutions use advanced algorithms, big data, and continuous learning to create fitness and nutrition programs that are unmatched by humans.

From gene-based fitness strategies to adaptive meal plans and dynamic exercise routines, AI is opening the door to a more intelligent, efficient, and personalized approach to health and fitness.

Artificial intelligence (AI) has already had a major impact on e-sports and is expected to impact many aspects of the industry in the future. With the recent release of OpenAI's ChatGPT, AI has gone mainstream.

A year ago, not many people knew or understood the term AI. Simply put, AI is a machine learning technology (such as computer programs) that mimics human intelligence and learns to make faster, more informed decisions and perform tasks. Discover some of the ways: AI is already impacting the sports industry and it can transform the future of the sports industry.

Performance Analysis:

AI Algorithms allow coaches and players to analyze vast amounts of data about their performance, including games and opponents. You can use this data to identify strengths and weaknesses, strategize, and make informed decisions in real-time. AI can also help prevent injuries by tracking player movements and analyzing biomechanics data to identify movements that can lead to injury.

Sports Betting

AI is used to analyze large amounts of data for more accurate predictions in sports betting. This will improve the accuracy of your odds and improve your overall betting experience. AI has developed predictive models that enable real-time sports betting (microbes) that allow consumers to bet on the outcome of their next play (such as running or passing) or throwing (such as a ball or bat). Or a result (touchdown, home run, etc.).

Fan Engagement:

AI-powered chatbots, AI content delivery, and virtual and augmented reality technologies are helping sports enthusiasts experience the game in new and exciting ways. AI powered chatbots can provide real-time game updates, answer questions, and make personalized recommendations based on fan preferences. AI predicts and determines the best content to deliver during and after the game, delivering highlights instantly. Fans in stadiums and at home can also benefit from the introduction of VR/AR-powered technology to make the experience even more immersive.



Referees and Management:

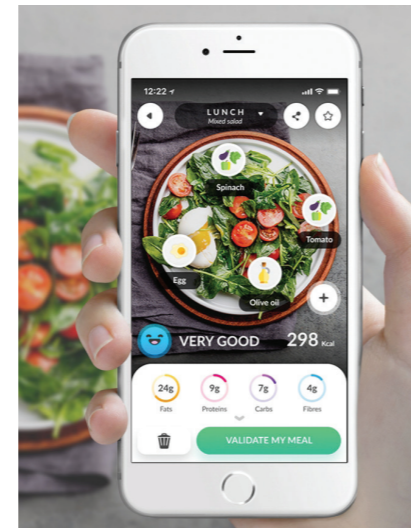
AI has been used for years to detect offside situations in soccer using Video Assistant Referee (VAR) technology. More sports are likely to adopt AI-powered technology to make more informed and accurate decisions that significantly impact the outcome of a match. Replace the baseball umpire with a virtual umpire to detect balls and shots, or use AI-powered instant replay to detect the outcome of the game. Also, they can identify and analyze various match situations and provide recommendations to referees.

Training and Skill Development:

AI is also changing the way athletes train and develop skills. With the help of AI-supported training programs, athletes can receive personalized feedback and recommendations to improve their performance. Golfers and tennis players have used this technology for years to analyze their swing and serve techniques.

As AI technology continues to evolve, further innovation is expected in the world of sports. However, it is important to note that there may also be concerns about the ethical implications of AI in sports, such as privacy and data security issues, and the potential for AI to completely replace human decision-making. Other possible legal implications include: Intellectual property rights (if an AI system creates a work, who owns the copyright?) and discrimination (if an AI system is trained on biased data, it can lead to biased results)

Ultimately, AI will be a useful tool to improve the sports experience for athletes, coaches, and fans. However, it is important to use them responsibly and consider their impact on the broader sports community.



AI Referee:

It was the 1986 World Cup. As Argentina was drawing 0-0 with nemesis England in the sweltering heat of Mexico, little Diego Maradona stood up with the England keeper to save a cross. Nevertheless, the mischievous Maradona jumped faster in the air, hit the ball with his head, nodded, and shot the ball into the net. Of course, anyone who knows football knows that's not what happened. From the moment Maradona touched the ball, the English defense went into a rage, implying that the Argentinian superstar had scored an illegal goal with his

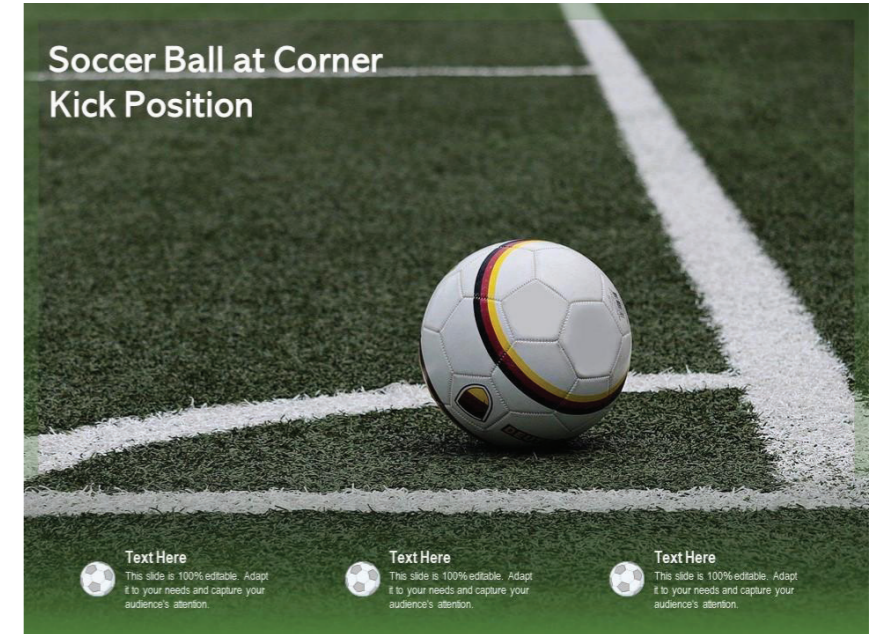
hand. Now, with AI refereeing in place, goals like this could be scored in a matter of minutes. If AI were used to assist referees in sports, all the key decisions that would change the outcome of a match would be judged more accurately, with much less room for error and perhaps much less controversy.

The Euro 2020 match between England and Denmark, where Raheem Sterling was given a questionable penalty when he collapsed near the goal, is a perfect example. What does AI decide? An AI referee verdict based on a model trained on V7 confirmed the following: "Contact with Sterling occurred 150 milliseconds before Denmark reached the ball." An AI referee would have awarded England a penalty anyway.

Of course, as long as sport has existed, we have faced fouls like hitting the ball with hands in soccer, offensive fouls in the NBA and etc. Over the years, thousands of cases have been miscalculated by referees, sparking outrage among coaches, fans, and clubs. The situation has improved little over the years. In fact, according to research:

From March 2015 to June 2018, the NBA watched 26,822 of its 1,476 games. In 4,297 minutes of activity, officials said they missed 2,197 plays or missed bids. This represents approximately 8.2% of all bids checked. This equates to 1.49% wrong decisions in the final minutes of each close match. 1.49% may not sound like much, but in sports, it's a huge number. This can sometimes be the determining factor in whether a team wins or loses, especially in a game like the NBA where games are often played until the end. Every point counts, and so does every call to the referee.

The sports industry is now actively using AI to improve decision-making processes, not necessarily to change the outcome of sporting events. For example, offside detection with an overhead camera assists VAR in football to ensure that no goals are awarded or disallowed. Also, on-field tracking systems (such as Hawkeye) can detect tennis balls, allowing them to make better line call decisions. This is especially true in clay tennis, where the ball moves so slowly that technology is still unable to indicate line calls with 100% accuracy. Computer Vision can also assist in identifying potential



penalties across sports so as to reduce mistakes, and controversies and prevent games from swaying one way or another due to a poor refereeing decision. Goal-line technology was brought into football after England was denied a clear equalizer versus Germany in the 2010 World Cup. As per FIFA's definition, it is "a technical means of instantly determining whether the whole of the ball has crossed the line." The technology uses magnetic fields and cameras to great effect. Interestingly, there are various criteria that GLT needs to meet in order to gain FIFA's approval, and this includes being able to function accurately "under adverse conditions."

A typical GLT relies on 14 strategically positioned cameras that are streamed to a cluster of computers, which use advanced image processing algorithms to

- Determine the object (ball).
- Distinguish it from interferences, such as a player's boot.
- Confirm whether the whole of the ball has crossed the line.

Personalized training and diet plans have improved immeasurably over the years for professional sportsmen and women. In England in the 1990s, it was not uncommon for British footballers to go to a pub after practice, have a few drinks, and eat a kebab on the way home. It used to be normal but with the use of artificial intelligence

your exercises are personalized and you will have your own diet plan. Studies have already shown promising results regarding the use of AI in strength training. Evaluations by professional trainers (using video analysis) showed good performance and predictive results. This demonstrated the feasibility and effectiveness of AI technology that automatically evaluates the performance of strength training equipment and provides immediate advice to athletes. Essentially, AI Diet Plan uses machine learning to create different plans for different players, based on their needs and current situation. Apps like Foodvisor take advantage of deep learning, especially objects. Foodvisor recognizes and identifies over 1,200 foods, estimates quantities, and generates quick nutrient breakdown reports.

That's just the tip of the iceberg. Don't forget the AI-powered fitness apps flooding the market. Thanks to a computer vision technique called human pose estimation, it is now possible to make algorithms that can detect human poses in real-time. This technology finds applications in areas such as online yoga and pilates, where key-point skeletal models can be used to identify human joints and guide users to the correct exercise.



The Future of AI in Gaming



AI in games refers to responsive and adaptive video game experiences. These AI-powered interactive experiences are typically generated by a non-player character or NPCs who act intelligently or creatively as if controlled by a human player. AI is the engine that determines the behavior of NPCs in the game world.

AI has been introduced in different forms to video games for a long time, but AI is seen as a burgeoning new frontier in how games are created and played. AI games increasingly shift control of the gaming experience to the player, and the player's actions contribute to the creation of the gaming experience.

AI procedural generation (also known as procedural storytelling) in game design refers to the fact that game data is generated algorithmically and not all elements are specially created by developers.

Why is AI important in gaming?

AI, gaming is about improving the player's gaming experience. This is especially important for developers to deliver game experiences across devices. When it comes to gaming, it's no longer just a matter of choosing between consoles and desktop computers. Rather, gamers expect immersive gaming experiences on a variety of mobile and wearable devices, from smartphones to VR headsets and more. AI will enable developers to deliver console-like experiences on all kinds of devices.

Why is AI important?

Nearly every game utilizes AI in some way. Without these, it's difficult for games to provide players with an immersive experience. AI's goal is to make the player as immersed in the game as possible by giving the in-game characters a realistic feel, even though the game itself is set in a fictional world. As AI gets better and more advanced, so does the way it interacts with the player's gaming experience. Consider a game like *Middle Earth: Shadow of War* and its Nemesis system. In this open-world adventure game, developed by Monolith Productions, the enemy Orcs you encounter throughout the game have different personalities, traits, and uses.

Any Orc you see in the game can join you, betray you, or become a spy. But that's not all. The Nemesis system makes the most memorable moments of the game even more memorable, as you can create an enemy that will come to you in the future by defeating the Orc captain and remembering what you gave him in the past. This system aims to give the player a whole new way to interact with NPCs in the game. When an Orc captain kills his favorite Orc companion, it feels personal.

The game feels even more intense when a tough foe that took forever to kill, comes back at the worst possible moment. The experience is slightly different for each player as it is tailored to the player's actions and procedurally generated characters. But while they are all advanced, they still have pre-programmed instructions from the developers.

In a similar game, the AI uses new technology, so there are real plans and real feelings about the game, not justices who seem to be making plans and befriending the player. This makes the game actually change based on each player's actions.

How is artificial intelligence in games developing? Until now, AI in video games has been largely confined to the two areas of pathfinding and finite state machines. Pathfinding is programming that tells AI-controlled NPCs where to go and where not to go. From retro 8-bit games to massive open-world RPGs, this is still important. Developers don't want villagers walking through walls or getting stuck on the ground in towns they're developing. Nor do we want them to be completely still. Finite state machines, on the other hand, allow us to change the behavior of the AI based on certain conditions. A good example of this is the enemy soldiers in the *Metal Gear Solid* series. Being spotted in their line of sight will trigger an alarm, causing all nearby enemies to approach your position and attack. You have to disappear from sight and hide until the guard gives up the pursuit and returns to the starting position. These are essentially two different states of him: a "track" state and a "patrol" state. These may sound like rudimentary ideas, but these two concepts drive most AI programming today. In the *SIMS* series, when the AI is hungry, it gets food. They sleep when they are tired. This mimics real-world

decision-making, but in reality, the state of the SIM card is from neutral to the nearest food source and the pathfinding program tells the card where the nearest food source is.

Use of AI in Game Development:

Within a few years, we witnessed that AI would play an increasing role not only in the games themselves, but also during game development. Recent experiments in deep learning techniques have enabled AI to memorize sequences of images or text and use what it learns to mimic that experience.

AI is now being used to generate Picasso-like artwork and human-like emails. The same technology is now being applied to game development, where in one experiment AI was able to program playable levels in a game using just a picture.

As the reliability of this technology increases, large open world games can be easily generated by AI and edited by developers and designers, speeding up the development process. But that's not all. Facial recognition software and deepfake techniques are also emerging. This can play a major role in future development cycles.

With deep fake technology, AI can recognize and use different scanned faces. Although still in its early stages, this type of AI has already created stunningly realistic 3D models using faces it can scan. Now imagine the same technology being used to create buildings and landscapes.

This saves developers countless hours. Thinking even bigger, it's entirely possible that we could use these technologies in combination to create an entire game from scratch without the need for a developer.

They may also be able to create these games from the ground up to suit the habits and tastes of their players, creating a unique and personal experience for their players.

It's hard to say if that will happen anytime soon, but I wouldn't be surprised if AI plays a bigger role in game development in the next few years.



Zula is a Free to Play Online First-Person Shooter game developed by MadByte Games in 2016. Shortly after its initial release, the Iranian game developer, Sourena Games, localized and officially released the title in Iran in Farsi. Despite the initial solo development by MadByte, Sourena Games has taken an active part in the development of the game, co-developing a plethora of new content with MadByte. This new wave of content chiefly includes new Maps and a selection of Melee and Ranged weapons.

ZULA

Ever since 4 years ago, Sourena Games has been hosting massive tournaments like the Zula League, that have been the most important and perhaps of sole note steps in jumpstarting the Iranian Esports scene. Zula tournaments are currently the most organized and popular Esport events that are hosted by a publisher. During these 4 years of events, over 20,000 players have participated in these tournaments in more than 1500 teams. They have been awarded a sum total of 4,000,000,000 IRR as prizes for these tournaments, a groundbreaking record for Iranian Esports. Through producing and publishing local content and games, and through increasing the general engagement of the Iranian public with Esports, Sourena Games seeks to acquire more of the Iranian PC Gaming market share.



ZULA.ir

The involvement of the Publisher with Zula's development has no doubt resulted in a desirable outcome. Not only for the fact that this localized version of the game includes the aforementioned new content, which creates an experience that cannot be had with the foreign versions of the game, but also for the fact that locally available servers within the borders of Iran allow the players to play with lesser latency and lower internet bills.

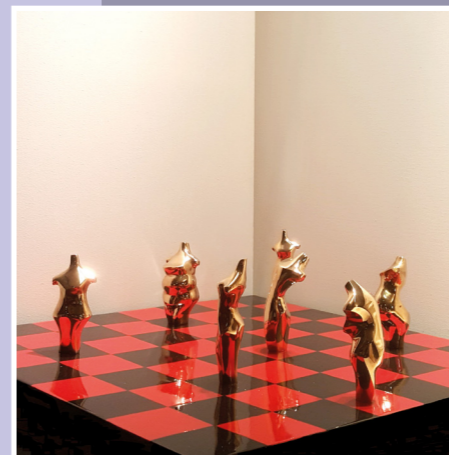
This is all without mentioning the benefits of the punctual and diligent customer support provided by Iran Zula team in Farsi, providing the client with a smooth experience throughout their time with the game. This capacity is of crucial importance to a massive online game like Zula. In the latest update of the game that was released this spring, the Iranian user can participate in the widely popular battle royale mode. The availability of vehicles such as cars and boats, as well as the low hardware requirements of the game, has made Zula's Battle Royale mode a primary contender in all Iranian competitive Esport scenes.

After 5 years, Iran Zula has succeeded in attracting 3 million participants and a peak of one million active players, showing immense potential in the Iranian PC Gaming market. Zula's amazing and profound success has indicated a massive potential PC Gaming market in Iran that was almost entirely untapped until now. However, we believe that this market is still untapped to a large extent, and can be fostered into a colossal and lucrative entertainment business sector. Years of sanctions and isolation of the Iranian entertainment sector from the global entertainment industry has artificially created a massive demand and a vacuum for these products, and if any entity were to fill that demand, the growth experienced will be unprecedented in the history of media.

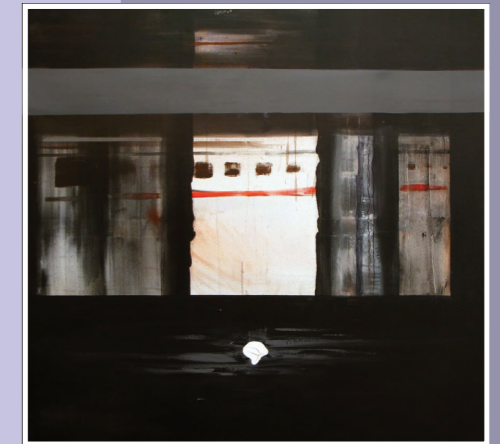
Zula is the first testament to this fact, and despite limited resources and tough situations, it has experienced a meteoric rise into the mainstream. Far from its true potential, with the availability of powerful servers, better and larger Esports infrastructure and strong marketing, Zula can feasibly achieve even upwards of 10 million active players.

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REPORT



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By: Danial Hamidian



The development of artificial intelligence (AI) is a double-edged sword, with the potential to solve some of the world's most pressing problems on the one hand, but also posing a number of potential dangers on the other. The world has not been the same, ever since the use of AI evolved. AI is being utilised in diverse domains, ranging from propelling autonomous vehicles to aiding physicians in diagnosing illnesses.

One of the most significant advantages of AI is its capacity to automate tasks that are presently executed by humans, thereby enabling us to concentrate on more innovative or strategic endeavours.

The future of AI is full of potential. As AI technology continues to develop, we can expect to see even more benefits from this technology. One of the most significant advantages of AI is its ability to automate tasks traditionally performed by humans, freeing them up for more innovative or strategic work. For instance, AI-powered chatbots can provide 24/7 customer support, allowing human representatives to focus on more complex responsibilities.

Looking ahead, AI holds enormous potential to address pressing global issues, such as climate change and world hunger. However, it is crucial to remember that AI is a tool that can be used for good or evil, and it is our responsibility to ensure it benefits humanity rather than harming it.

AI presents a significant risk in the development of autonomous weapon systems that can operate without human intervention, potentially leading to indiscriminate killing and posing a severe threat to global security.

The dangers of such systems are complicated, as it is difficult to control their actions, once deployed. Additionally, they can be challenging to defend against, as they can be programmed to target specific individuals or groups and evade traditional defences. The potential for an uprising of conflict is also a significant concern, with the deployment of autonomous weapon systems potentially leading to an arms race and an increased risk of war.

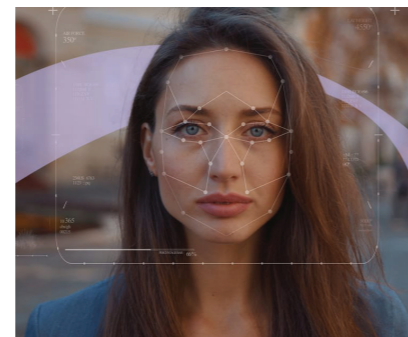
Deepfake technology is another hazard in the artificial intelligence (AI) world. It allows users to create realistic and convincing videos of people saying or doing things they never said or did. This technology is becoming increasingly sophisticated and it is already being used for a variety of purposes, including entertainment, marketing, and propaganda. One of the most concerning potential uses of deepfake technology is for political purposes. Deepfakes could be used to create accusatory videos of politicians, in order to damage their reputations or to spread misinformation.

Deepfake could also be used for financial fraud. For example,

people can use it to create a video of a CEO announcing that the company is making a large profit, when in reality the company is losing money.

This could artificially inflate the company's stock price, allowing the fraudsters to make a profit by selling their shares. Even though deepfake technology is still in its early stages, it is clear that it has the potential to be used for malicious purposes. Machine learning algorithms can be used to detect deepfakes by identifying patterns that are characteristic of fake videos.

These patterns can include lip-syncing errors, as well as the absence of blood circulation under the skin of the speaker. Additionally, digital watermarking can be utilized to embed invisible markers into videos for the purpose of verifying their authenticity. Lastly, raising public awareness about the potential dangers of deepfake technology is one of the most effective ways to counter its expansion, as it can reduce the likelihood of individuals being deceived by deepfakes.



The use of artificial intelligence (AI) in the creation and distribution of child pornography, poses a significant threat to children's safety and privacy. With the advancements in AI technology, it has become easier for perpetrators to manipulate images and videos of minors, creating fake content that is difficult to detect and trace.

One of the most significant dangers of AI-generated child pornography is the potential for it to be used as a tool for grooming and sexual exploitation. Perpetrators can use AI-generated images and videos to manipulate children into believing that they are interacting with someone their own age or engage in sexual acts with them. This can lead to severe psychological trauma and long-term damage to the child's mental health.

Furthermore, the proliferation of AI-generated child pornography can make it challenging for law enforcement agencies to identify and prosecute offenders. The use of sophisticated algorithms and deepfake techniques can create fake content that is almost indistinguishable from real images and videos.

This makes it challenging for investigators to identify and track down offenders, leading to a rise in the number of unsolved cases. To combat the dangers of AI-powered child pornography, there is a need for increased awareness and education among parents, children and law enforcement agencies.

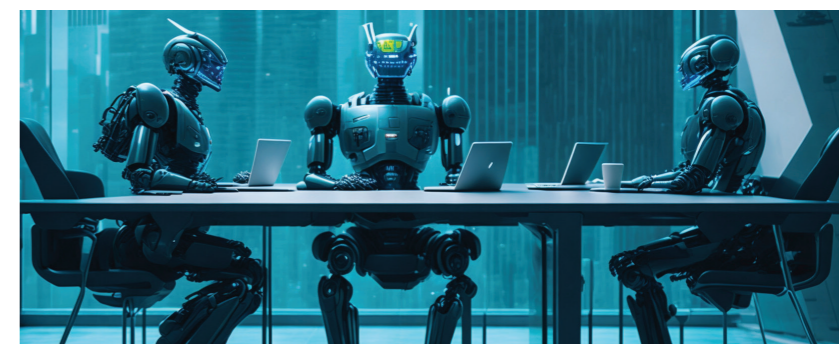
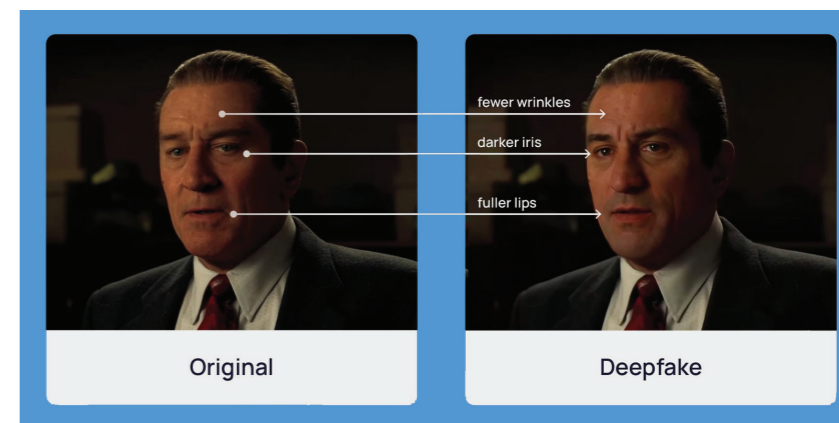
Parents must be vigilant in monitoring their children's online activities and educating them about the dangers of interacting with strangers online. Law enforcement agencies must invest in advanced technologies that can detect and track down perpetrators.

Another danger of AI is that it could be used to create systems that are capable of manipulating human behaviour. These systems could be used to spread misinformation, influence elections, or even control our thoughts. There are a number of ways that AI-powered behaviour could manipulate systems.

For example, they could be used to target people with personalised propaganda or create echo chambers where people are only exposed to information that confirms their existing beliefs. They could also be used to manipulate people's emotions or make them more susceptible to suggestion.

AI could also lead to mass unemployment, as machines become capable of doing more and more of the work that is currently done by humans. This could lead to social unrest and economic instability.

As AI gets more sophisticated, it becomes more capable of doing human's work. This could lead to a situation where there are not enough jobs for everyone. For example, AI-powered robots are already being used in factories to assemble products and they are becoming increasingly capable of performing



tasks that were once thought to be the exclusive domain of humans. Another concern is that as the cost of AI technology continues to fall, it will become more and more accessible to businesses. This means that businesses will be able to automate more and more tasks, which could lead to job losses.

Fake media is any type of media that has been manipulated or fabricated to deceive the viewer. This can include images, videos, audio recordings, and even texts. AI-generated fake media are created using AI algorithms that are able to learn and mimic human behaviour.

This means that AI-generated fake media can be very realistic and difficult to distinguish from real media. AI-generated fake media is often used to manipulate people on social media. This can be done by creating fake news articles, fake social media posts or even fake videos of celebrities or important public figures. The goal of this manipulation is to influence people's opinions, beliefs, or behaviour.

AI has the potential to make our world a better place. However, it is important to be aware of the potential dangers of AI and to take steps to mitigate them. We need to develop AI systems that

are fair and unbiased, and we need to protect the privacy of the data used to train these systems. We also need to invest in security research to ensure that AI systems are secure from attacks.

If we do these things, AI has the potential to make our world a more prosperous, safer, and more equitable place not just for us, but for the generations yet to come.





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