

CORPORATE

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Innovation in
Artificial Intelligence(AI)

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Dear Reader,

The objective of Corporate Dossier is to keep readers aware of happenings, news, and trends that affect finance and the economy. We also carry information related to growing businesses that helps shape corporate strategies.

In this edition, we bring you a collection of insightful articles that capture the essence of this rapidly evolving landscape. Dive into informative pieces that unravel the essentials of digitization, offering you a comprehensive understanding of its importance in today's era.

If you feel like contributing towards the next issue on any relevant topic, please do so. You can send the article to info@uja.in

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07



By Archana Dadhich
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UJA Global Advisory



Integration of Artificial Intelligence from Legal Perspective



For an AI software to qualify for copyright protection, it must meet certain criteria, including being original, a creative expression rather than a mere idea or concept, and falling within the category of copyrightable subject matter, specifically “literary works. The creator of the software or algorithm must demonstrate these requirements to secure copyright protection. While copyright registration is not obligatory, it proves beneficial for enforcement purposes.

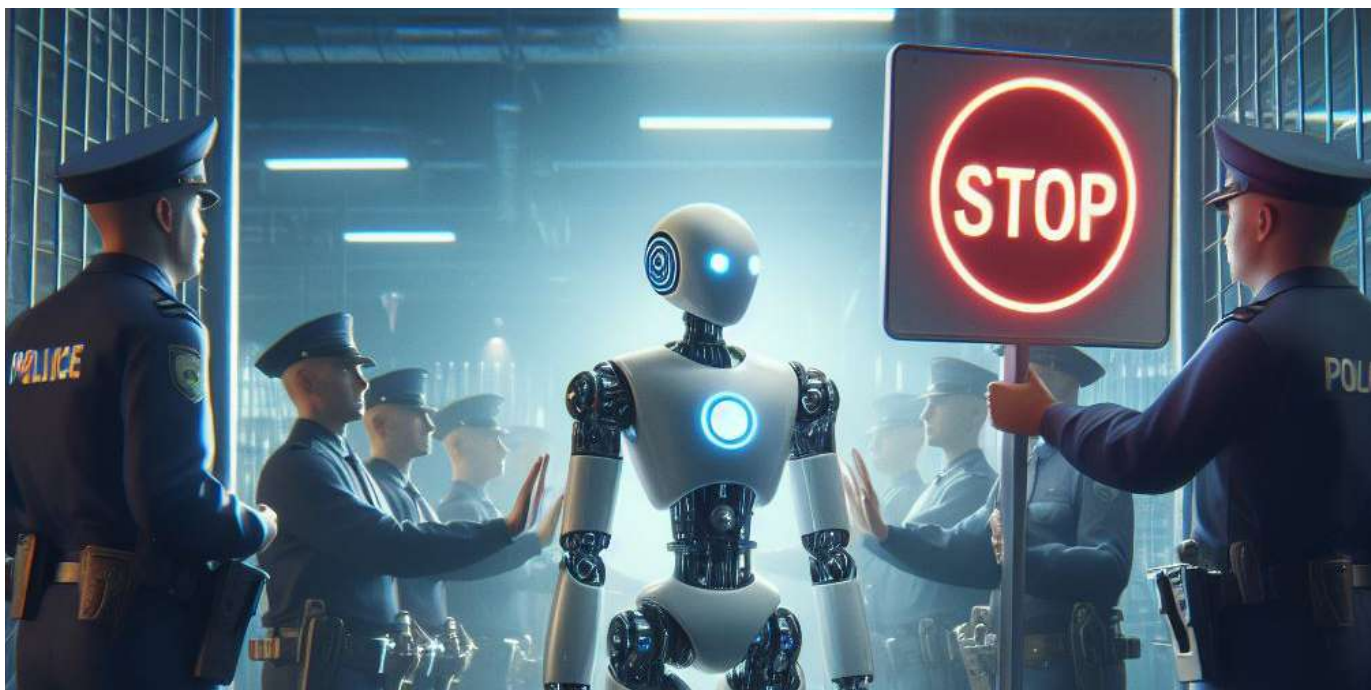
In the event of infringement, copyright owners in India have the option to pursue civil remedies, such as filing a copyright infringement suit for injunctions, pecuniary remedies, or an account of profits. Additionally, criminal proceedings can be instituted, involving imprisonment, fines, search and seizure procedures.

Although the AI software itself qualifies for copyright protection as a computer program, a significant challenge arises regarding the determination of the authorship and/or ownership of any works produced by such AI software.

The integration of artificial intelligence (AI) in the legal field has been a subject of increasing interest and discussion. AI technologies are being adopted to streamline various legal processes, enhance efficiency, and provide valuable insights. The heightened endeavors of the Indian government to boost the digital economy have elevated AI to a significant focal point in legal and policy discussions.

In the 2023–24 union budget of India, the finance minister emphasized the initiative of ‘Making AI in India and Making AI work for India’. Regarding AI software and algorithms, their copyright protection in India is regulated by the Copyright Act, 1957. According to this Act, computer programs and software are classified as literary works, making them eligible for copyright protection. Consequently, AI software and algorithms can be protected under the Copyright Act. The Act grants the copyright owner exclusive rights to reproduce, distribute, and perform the software.





As mentioned above, the Copyright Act stipulates that, for copyright protection to be granted, a work must be original, originating from an author. While the Act doesn't specify a standard for originality, legal precedents have established that the essential criterion is that the work must exhibit a minimum degree of creativity and should not be a mere result of routine labor. It remains uncertain whether outputs generated by AI tools would meet the criterion of "creativity" if perceived as a simple synthesis of data from existing sources.

According to the Patents Act, a patent application can be submitted by "any person claiming to be the first and true inventor of the invention" The term 'patentee' is defined as "the person entered on the patent office register as the grantee or owner of the patent". From an interpretation of these provisions, it becomes apparent that, under the current law, only a human is recognized as eligible to apply as an inventor.

The Parliamentary Standing Committee on the "Review of the Intellectual Property Rights Regime in India" has noted that the requirement for a human inventor poses a challenge for patenting innovations induced by AI and machine learning in the field of computer-related inventions. On the basis of this observation, there may be a prospect of further legislative scrutiny of these provisions in the foreseeable future.

Legal Challenges in AI

The reliance of AI on personal data for making predictions and decisions raises substantial privacy concerns. Despite regulations such as the European Union's General Data Protection Regulation (GDPR) striving to safeguard individuals' data rights, navigating the intricate legal landscape at the intersection of AI and privacy remains an ongoing challenge.

Determining liability in instances where AI systems make errors or cause harm presents a complex challenge. The unresolved legal issue revolves around whether it should be the AI developer, the user, or the AI itself held accountable. Clear lines of accountability and liability are imperative, especially in cases of AI-related accidents or failures.

The creative outputs of AI, spanning art, music, and written works, prompt significant questions about ownership. Resolving who holds the rights to AI-generated content and adapting intellectual property laws to accommodate AI innovations are pressing legal considerations.

To effectively tackle these legal challenges and mitigate potential risks associated with AI, there is a consensus that a multifaceted approach involving ethics, laws, and regulations is essential. Governments worldwide are taking steps to introduce legislation regulating AI, exemplified by initiatives like the proposed Artificial Intelligence Act in the European Union. These laws aim to establish clear standards for the development and usage of AI.

Given the global nature of AI, international collaboration is paramount to harmonize regulations and effectively address cross-border legal complexities.

AI is evolving rapidly, necessitating consistent monitoring and updates to laws and regulations to keep pace with technological advancements. Regular adaptations are crucial to ensure that legal frameworks remain relevant and effective in the dynamic landscape of AI development.

Some positive key aspects of the integration of AI in legal field

AI facilitates efficient document review, comprehensive legal research by automating the analysis of large volumes of legal documents, contracts, and agreements, expediting due diligence processes. Natural Language Processing (NLP) algorithms enable machines to understand and analyze large volumes of legal documents, contracts, and case law. This further speed up document review processes, saves time, reduces human errors, helps identify relevant cases and precedents and enhances the accuracy of legal analysis.

Predictive analytics tools use machine learning algorithms to forecast case outcomes, assess risks, and provide insights into legal strategies. Predictive analytics help lawyers to anticipate case outcomes, assess litigation risks, and make informed decisions based on historical data and patterns.

AI can further analyze contracts, identify key clauses, and even draft simple contracts based on predefined criteria. AI streamlines contract drafting and analysis, offering insights into potential risks and discrepancies, ensuring the creation of legally sound agreements.

AI tools provide decision support by analyzing legal data and offering recommendations to lawyers or judges. It also assist in monitoring and ensuring compliance with ever-evolving legal and regulatory frameworks. AI adoption in legal processes can lead to cost savings, increased efficiency, and improved resource allocation.



Preparation for the AI – driven legal future

Legal professionals must take a proactive approach by not only acquainting themselves with AI tools but also grasping the ramifications of an industry that is increasingly reliant on technology. It is crucial for them to engage in continuous learning, keeping abreast of the latest advancements. Additionally, soft skills such as client counselling, negotiation, interdisciplinary collaboration, ethical responsibility, maintaining and enhancing client relations, acquiring new specializations, and honing courtroom oratory will become even more valuable.

Those legal professionals who actively embrace these changes, acquire the necessary skills, and uphold the fundamental values of their profession will not only successfully navigate this transition but will also play a pivotal role in shaping the future of law in India.

In conclusion, the integration of AI in the legal perspective offers numerous benefits, from improving document analysis to enhancing decision-making processes. However, it also brings challenges related to ethics, bias, and the need for careful consideration of regulatory and legal implications.

Striking a balance between technological innovation and ethical considerations is crucial for the successful integration of AI in the legal field.

For legal practitioners in India, the AI revolution entails more than just adjusting to new tools; it involves skillfully navigating the delicate equilibrium between tradition and innovation. The challenge is to synchronize the long-standing principles of the Indian legal system with the transformative potential of technology. In this constantly evolving landscape, one certainty remains: thriving legal professionals are not merely those who adapt to AI, but those who actively contribute to shaping its integration, ensuring that technology aligns with both the literal and the intrinsic aspects of the law.

By bridging the divide between the past and the future, the Indian legal sector is positioned to establish a model where AI doesn't supplant professionals but rather empowers them. This heralds an era where justice is not only served but also augmented by the capabilities of technology.

Changes to copyright legislation may be required to tackle the distinct challenges presented by AI technology. The legal ramifications of utilizing these tools are likely to stay intricate and unclear until more conclusive laws are put in place.



02



By Mohnish Khisty
Associate,
Market Entry Advisory



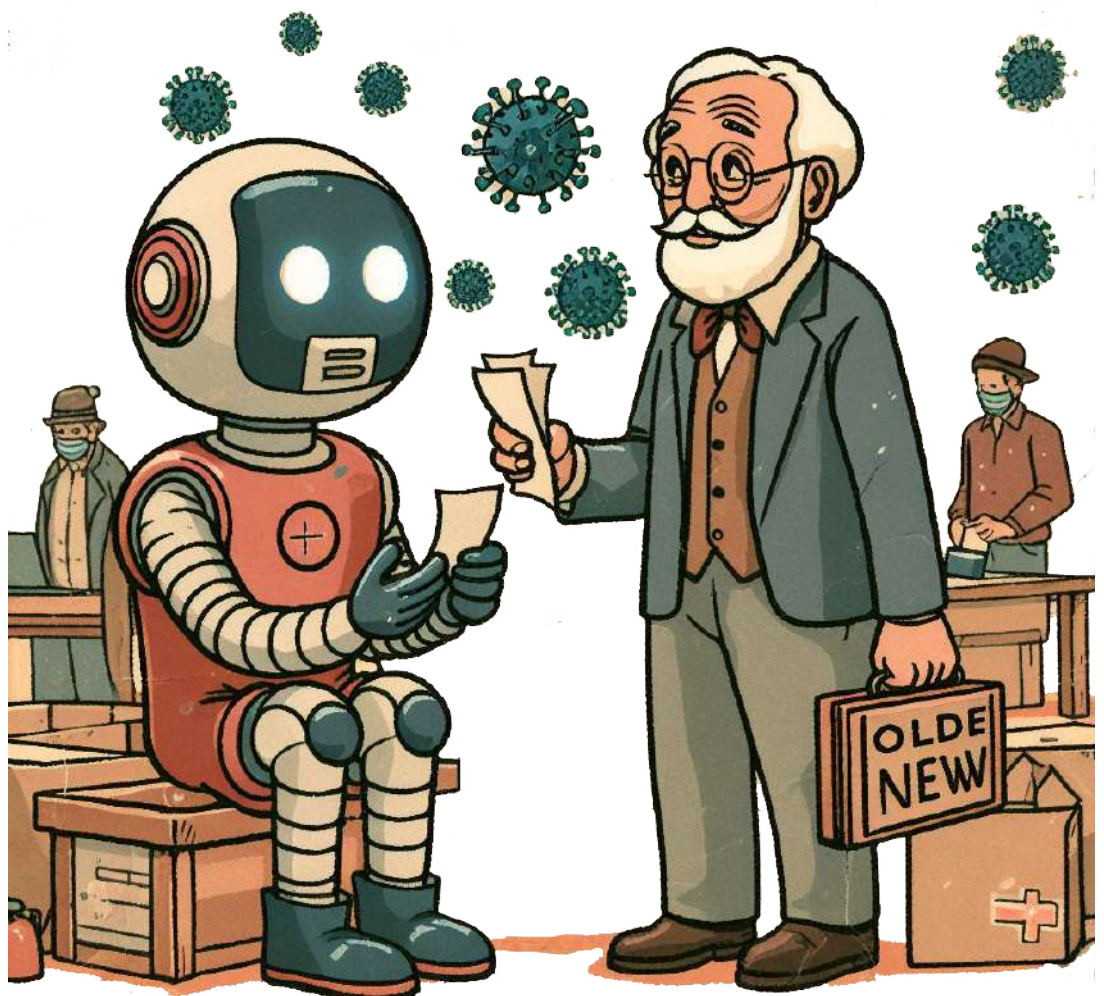
Innovation in Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the process of simulating human intelligence on machines, especially computer systems. AI includes various applications such as natural language processing, expert systems, speech recognition, and machine vision. These advancements enable computers to analyze large datasets, detect patterns, and draw informed conclusions or predictions, often surpassing human abilities. AI is rapidly evolving, transforming industries, shaping societies, and pushing the boundaries of what is possible. As a result, leading tech companies, startups, and researchers are striving to develop AI solutions that can augment human intelligence and provide a competitive edge. The development of AI technologies has the potential to revolutionize various industries, including healthcare, finance, and transportation, and contribute significantly to the economy.

The rapid development of AI is transforming the business landscape at an unprecedented rate. Businesses that leverage AI technologies stand to gain a durable competitive advantage over their peers. Several enterprise functions, such as marketing, sales, finance, and human resources, can benefit from new AI-enabled applications. These applications include 24/7 financial guidance for customers, predictive and risk assessment of loans, and collection and analysis of client data. By leveraging these applications, businesses can streamline their operations, enhance their decision-making capabilities, and improve their overall performance. Furthermore, AI innovation benefits business solutions by strengthening cybersecurity systems, reducing energy costs, performing data analysis, and helping an organization become more customer-centric.

The field of artificial intelligence has experienced significant growth in recent years and is expected to continue to grow due to the COVID-19 pandemic. This is because businesses are increasingly turning to artificial intelligence to improve customer experiences and increase revenue. Additionally, the use of AI and machine learning technologies to manage the large volumes of data generated by various devices within an organization is driving growth in the AI industry. Furthermore, the increase in investment in artificial intelligence by various private sectors, such as healthcare and medical research, to combat the pandemic, has had a positive impact on the AI industry as a whole.

Moreover, AI has emerged as one of the most remarkable innovations and trends in 2023. Consumers and investors are increasingly pressurizing organizations to make significant strides. As these demands continue to grow in 2023, artificial intelligence and its latest trends will play a crucial role in helping organizations achieve sustainability benchmarks by improving measurement, data collection, and carbon accounting to enhance productivity. For instance, in 2023, big tech giants such as Microsoft, Google,





and Amazon signed a series of blockbuster deals, accounting for two-thirds of the USD \$27bn raised by fledgling AI companies. Similarly, favourable government initiatives are expected to have a positive impact on industry growth. The establishment of subcommittees on machine learning and AI within the federal government has garnered attention towards the AI industry. In 2020, the Government of India increased the spending for Digital India to \$477 million to boost AI, IoT, big data, cybersecurity, machine learning, and robotics.

At present, researchers are increasingly embracing artificial intelligence technology due to its transformative capabilities. This trend is expected to continue in the upcoming years while offering an opportunity for the artificial intelligence industry to expand. In many fields, research scientists have started appreciating the importance and potential of AI to predict outcomes, discover hidden insights and optimize experiments. Following are some of the fields in which the latest innovation in artificial intelligence is trending:

1. Intelligent Process Automation (IPA) :

Companies can automate the processing of unstructured data using a feature called Intelligent Process Automation in Artificial Intelligence. In the banking and financial industries, IPA is utilized with other technologies such as Machine Learning, Cognitive Automation, and Robotic Process Automation. IPA is used by investment bankers to spot discrepancies in data collection that are practically impossible to spot with human eyes.

2. AI in the Healthcare industry :

The Healthcare industry is one of the most important working industries in the world. Meanwhile, AI has helped in narrowing the gaps in mental healthcare. AI has also made it possible to monitor brain health in real-time with the help of predicting seizures, identifying early stages of dementia, reading EEG, etc.

3. AI with the Internet of Things (IoT) :

The Internet of Things (IoT) is a method of connecting a large number of physical objects over the Internet in order to gather and share data. In combination with AI, IoT devices can foresee the requirements of the user and start equipment without the need for human interaction.

4. AI in Smart Money :

Artificial Intelligence is proving itself to be revolutionary in the field of finance. 60% of companies are now using Natural Language Processing (NLP), which is a subfield of machine learning that helps computers understand and manipulate the natural language spoken by humans. Due to this, leading financial services businesses are



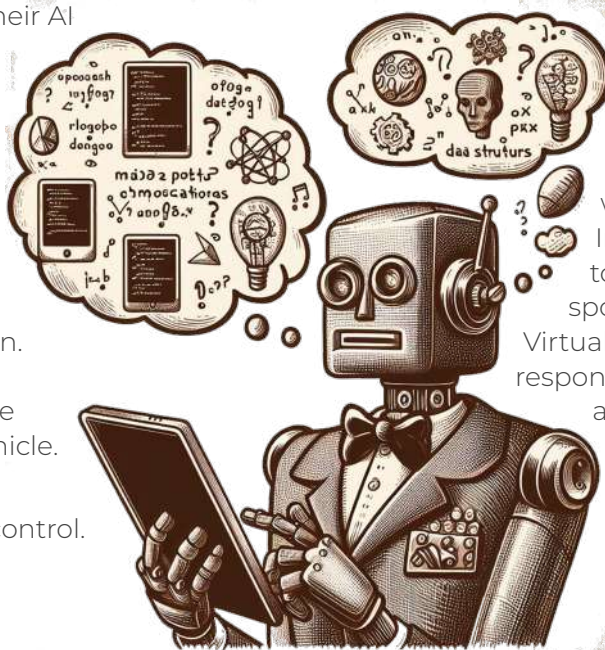
seeing a 19% increase in overall income as a result of their AI projects.

5. AI in Automobiles :

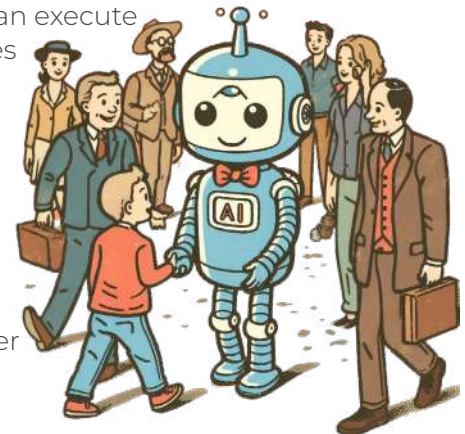
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Artificial Intelligence has made vehicles autonomous now. With the help of AI, vehicles are now able to operate themselves without the need for any driver's intervention. There are six levels of automation that can be installed within the vehicle.

- ◆ At level 0, the car requires human control.



- ◆ At level 1, the advanced driver assistance system (ADAS) in the car may aid the driver with navigation, acceleration, and brakes.
- ◆ At level 2, the human driver must maintain total attention to the driving environment during the travel while also completing the other responsibilities.
- ◆ At level 3, the ADS (advanced driving system) can execute all aspects of the driving duty, but the human driver must be able to restore control when the ADS requests it.
- ◆ At level 4, the human driver performs the required tasks. In some circumstances where human attention is not required, the vehicle's ADS can execute all driving duties autonomously.
- ◆ At level 5, the vehicle is capable of performing all duties in all situations and no human driver assistance is necessary.



6. AI for Virtual Assistants and Chatbots :

Voice assistants like Alexa, Siri, and Google Assistant, as well as chatbots, are embedded into many websites that employ NLP, Artificial Intelligence, and speech recognition to interpret and respond to a user's spoken instructions. Most Chatbots and Virtual Assistants have pre-programmed response systems that respond in accordance with particular rules and patterns.

7. Quantum AI :

Artificial Intelligence has been playing a very important role in the progress of quantum computing. It can provide artificial intelligence with a computational boost, allowing it to solve more difficult tasks. The use of quantum computing for the calculation of machine learning algorithms is known as quantum AI.

8. AI for Cybersecurity :

Every business requires internet security since all of their company's key databases, including financial data, plans, and private information, are housed online. Cybersecurity is a must-have for all businesses, making it one of the most essential uses of AI.

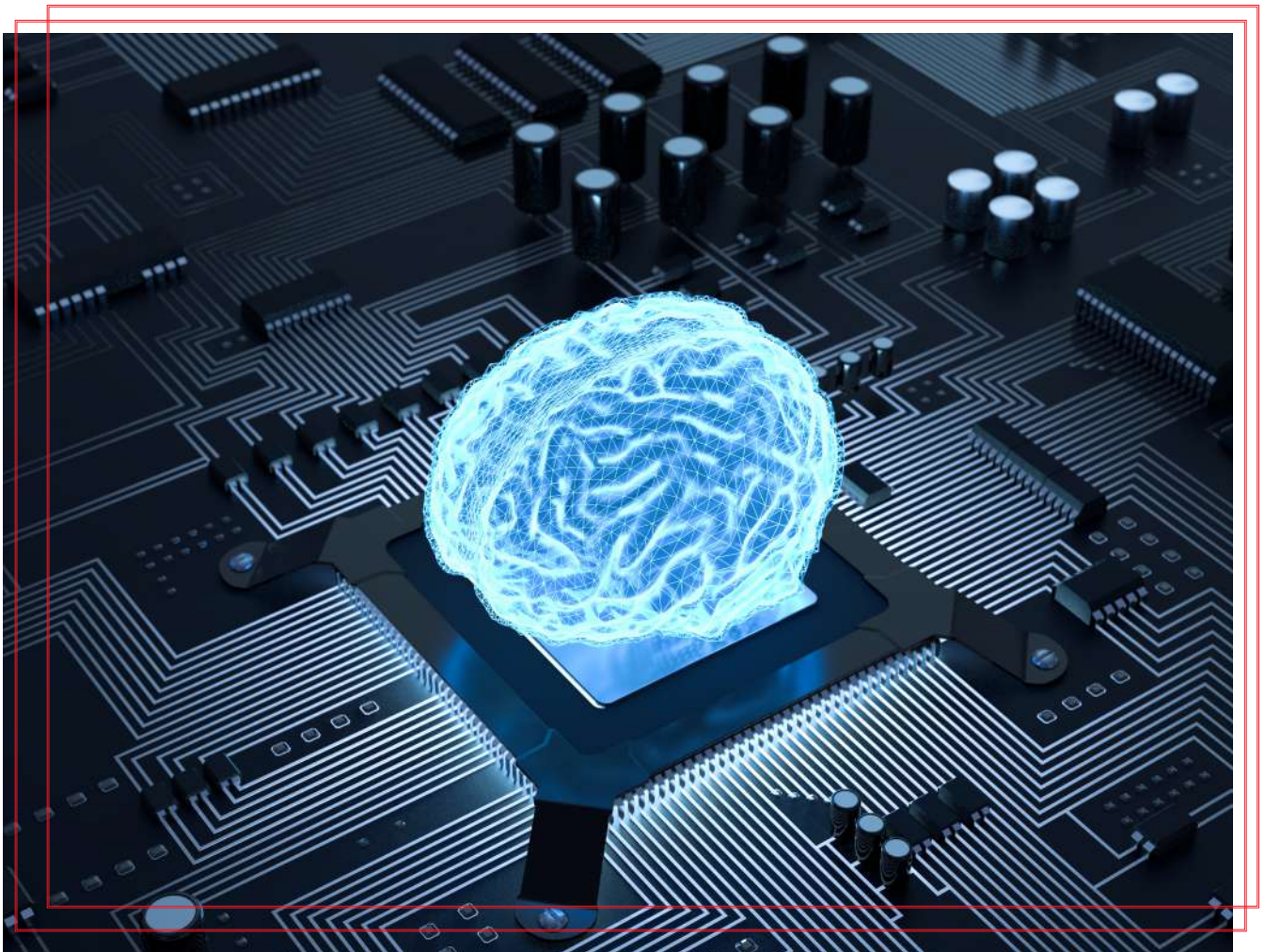
9. Robotic Process Automation (RPA) :

RPA is a technology that allows the creation, installation, and management of software robots that mimic human movements. It is capable of

handling and automating repetitive activities. It can help in the repetition of any task multiple times each day, freeing up human time for other useful pursuits. RPA is widely utilized in the insurance business, but incorporating AI into typical insurance RPA procedures.

AI has had a significant positive impact on various sectors, but there are also important ethical considerations to keep in mind. These include addressing issues related to bias, privacy, and the impact on employment. However, AI is continuously unlocking new opportunities, enhancing efficiency, personalizing experiences, and driving growth in today's digital age across organizations.

If used in the right way, it increases productivity, creativity and automation for corporates, startups, scale-ups, SMEs and us solopreneurs across industries.



03



By Kajal Sathe
Associate,
Market Entry Advisory



Advancement Artificial Intelligence (AI)

Artificial intelligence (AI) is a rapidly emerging technology that has the potential to transform every industry. AI has proven its ability to improve human capabilities, solve complex issues, and bring up new opportunities in a variety of industries, including healthcare, education, entertainment, finance, agriculture, and manufacturing, among others. Moreover, the number of AI-led initiatives has recently increased due to the technology's enormous business potential. These projects include creating proactive chatbots for customer support and predictive analytics for better decision-making, as well as the most current revolution, ChatGPT.



Thus, Artificial Intelligence is being used in several areas, such as healthcare, finance, and e-commerce, to increase productivity, accuracy, and convenience. Innovation in artificial intelligence (AI) is transforming numerous sectors, some of which are as follows :

1. Advancements in Computer Vision :

This method assists businesses in identifying, tracking, and other aspects of their workforce. The usage of computer vision will rise across numerous industries, including healthcare, aviation, retail, and finance. The rise of real-time object detection systems is one of the most recent developments in computer vision. These systems are ideal for applications such as surveillance and autonomous driving cars as they can identify objects in real-time video streams.

2. Advancements in Natural Language Processing :

Artificial intelligence (AI) systems will advance in their ability to comprehend the specifics of human language, leading to improved language translation abilities, more capable chatbots, and more accurate sentiment analysis. This development in natural language processing will enable AI systems and humans to communicate more effectively. The development of large-scale pre-trained language models, such as GPT-3, BERT, and T5, is the most significant advance in natural language processing (NLP). Thus, these models can handle various tasks related to natural language, including text generation, sentiment analysis, and text summarization, among others.

3. Quantum AI :

Quantum AI is the combination of quantum computing with machine learning algorithms. With the use of quantum AI, massive amounts of data can be processed more quickly, allowing investors to make informed decisions. In addition, Quantum AI's accuracy also enables investors to identify profitable trades in the forex, stock, and even cryptocurrency markets. Moreover, Quantum AI algorithms have the potential to determine the most effective medicines for a patient's particular illness by examining their genetic data. It can also speed up the process of developing new drugs and bringing them to market in less time.



4. Intelligent Process Automation (IPA) :

Intelligent Process Automation (IPA) is another application of AI that automates specific operations. Businesses are employing IPA solutions that integrate digital personnel with artificial intelligence technologies to save time and money while focusing on essential business tasks. In addition, this technology can integrate with other technologies such as machine learning, and computer vision to produce better outcomes.

5. Robotic Process Automation (RPA):

Integrating AI and RPA provides a set of capabilities for automating various business operations. RPA can handle repetitive operations, whereas AI can provide decision-making and analytical abilities. For instance, insurance companies are already using RPA to enhance a variety of data processing tasks such as processing claims with minimal human interference.

6. Web 4.0- the next frontier :

Web 4.0, referred to as the symbiotic web, is the most visionary and ambitious area of AI research and innovation. Web 4.0 is based on the convergence of various technologies and trends, including 5G, cloud computing, big data, blockchain, and others. This technology enables computers to understand and comprehend human language. This can assist businesses in making more informed decisions based on real-time data.

Thus, Artificial intelligence (AI) is transforming the way businesses operate, and assist businesses in automating repetitive tasks, and offering customers individualized experiences by processing huge amounts of data.

04



By Nandita Khaire
Director,
Business and Corporate Str

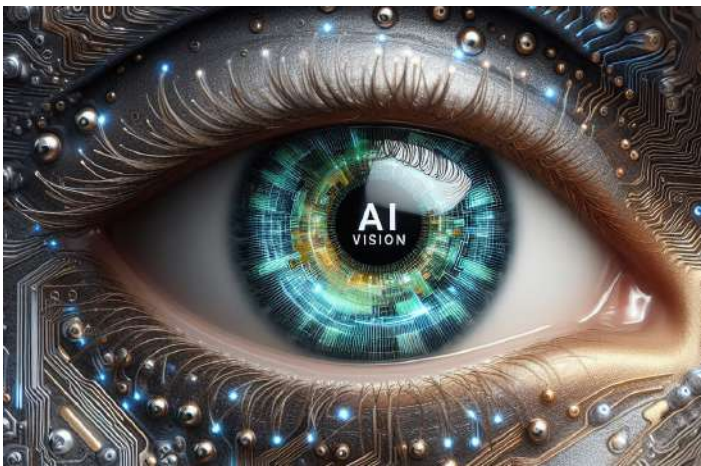


AI in India

AI in India

India among **top 5** countries with fastest-growing AI talent: **LinkedIn report**

The report found that in 25 countries, the number of LinkedIn members who added AI skills to their profiles has doubled after the arrival of ChatGPT, which rose from 7.7 % in May- November 2022 to 13% in November 2022-June 2023.



India's AI Vision

Envisioned as an umbrella programme by the Ministry of Electronics and Information Technology (MeitY) for leveraging transformative technologies to foster inclusion, innovation, and adoption for social impact. Consequently, INDIAai (The National AI Portal of India) is poised to assume the pivotal role of a content repository for the INDIAai programme.

AI Pillars

Governance – Application of AI technologies in government processes

Compute and Systems – Optimising infrastructure to support and execution requirement of AI

Data – Revealing how data can fuel development and capabilities of AI

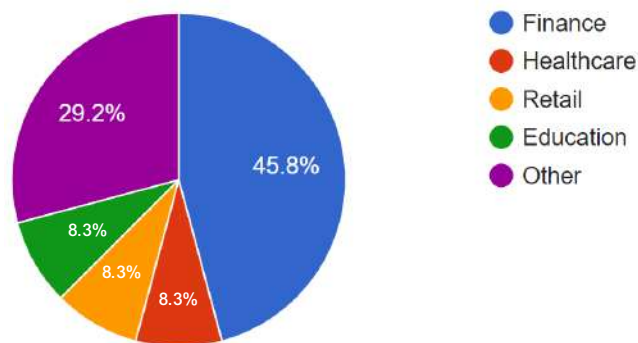
IP and Innovation – Intersection of AI, intellectual property, and innovative practices.

Skilling – Enabling individuals to acquire AI knowledge and expertise

Ethics and Governance – Guiding responsible development and deployment of AI systems

NITI Aayog

has decided to focus on five sectors that is seen to benefit most from AI in solving societal needs:



- a. **Healthcare** : increased access and affordability of quality healthcare
- b. **Agriculture** : enhanced farmers' income, increased farm productivity and reduction of wastage
- c. **Education** : improved access and quality of education
- d. **Smart Cities and Infrastructure** : Smart Cities and Infrastructure:
- e. **Smart Mobility and Transportation** : smarter and safer modes of transportation and better traffic and congestion problems.

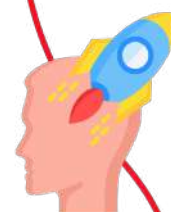
NASSCOM AI

Assessment framework to move up the maturity ladder consisting of 4 key stages such as **Explorer**, **Enthusiast**, **Expert** and **Evangelist**.

Explorer



Enthusiast



Expert



Evangelist



Types of

AI

**Reactive, Limited Memory,
Theory of Mind, Self-Awareness**

01

Reactive AI

The most basic level of AI functions. These machines cannot store data in their memory, and can only react to the data in front of them. These machines can't learn or form any kind of memories, and always react to the same input with the same output. For eg: Spam filters on email websites, recommendation functions on e-commerce websites.



02

Limited Memory

AI has the ability to temporarily store data input and use it to decide the next course of action. The limited memory machine takes the input data and makes predictions of how the data will affect a given outcome, then using that to determine how to react. The data input and memory functions are simply to decide between actions, not to improve. For eg Self-driving cars take in data (such as driving conditions, traffic, and nearby pedestrians) to make decisions and avoid accidents, self-working robots take in limited data on their surroundings in order to make decisions.

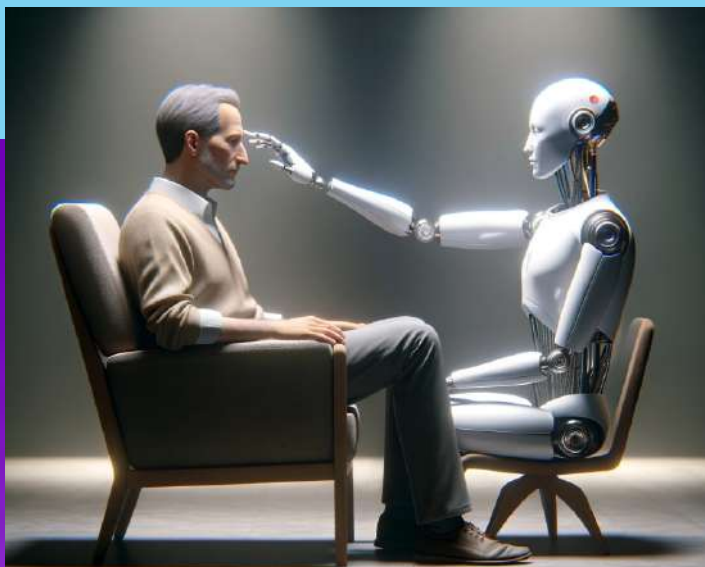




03

Theory of Mind

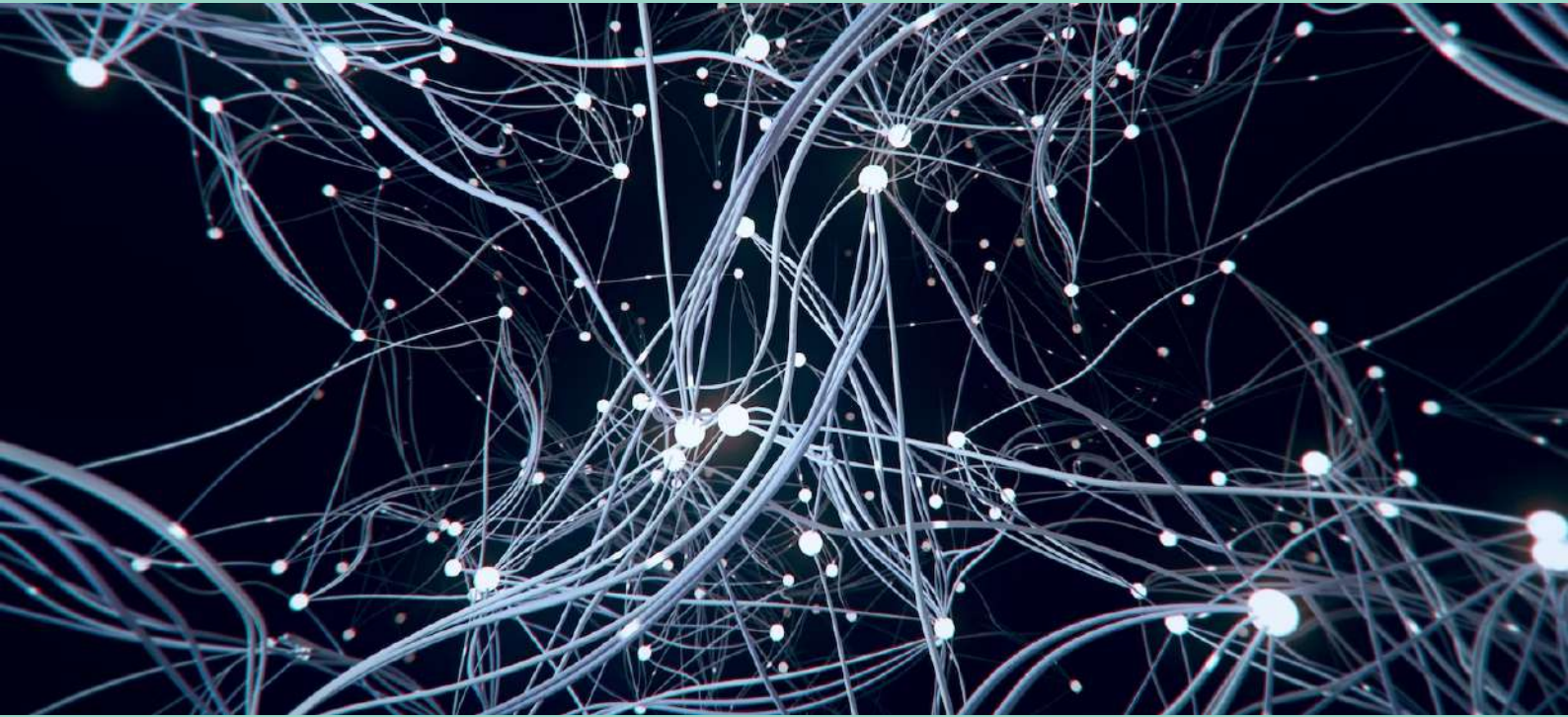
The thought behind the design of these systems is that AI must be programmed and trained to understand that humans (and animals as well) have thoughts and feelings that impact their mental state and decisions. AI will be able to have a two-way relationship with humans and handle more complex interactions.



04

Self-Awareness

The AI is programmed to become aware of itself and its place in the world, as well as the function it serves and the place of humans around it. It will possess a human-level consciousness, and be able to think and make its own decision.



Artificial Intelligence Algorithms

An algorithm is a series of rules that a calculation or operation must follow in order to be completed correctly. This applies to math and computer programs.

Artificial Intelligence Examples

Digital assistants (Siri, Alexa, Cortana)

Self-driving cars

Navigation apps

Social media algorithms

Advertisements

Generative AI

Generative AI (GenAI) is a type of artificial intelligence that can create new content, such as text, images, music, audio, and videos.

Generative AI applications primarily involve generative AI models being trained to create content as responses to natural language requests. This doesn't require any experience or knowledge of coding. In a nutshell, generative AI begins with prompts that could be texts, images, designs, audio, or any other input that the specific AI system can process. AI algorithms then return new content in response to the provided prompts. (turing.com)

Some Applications of generative AI :

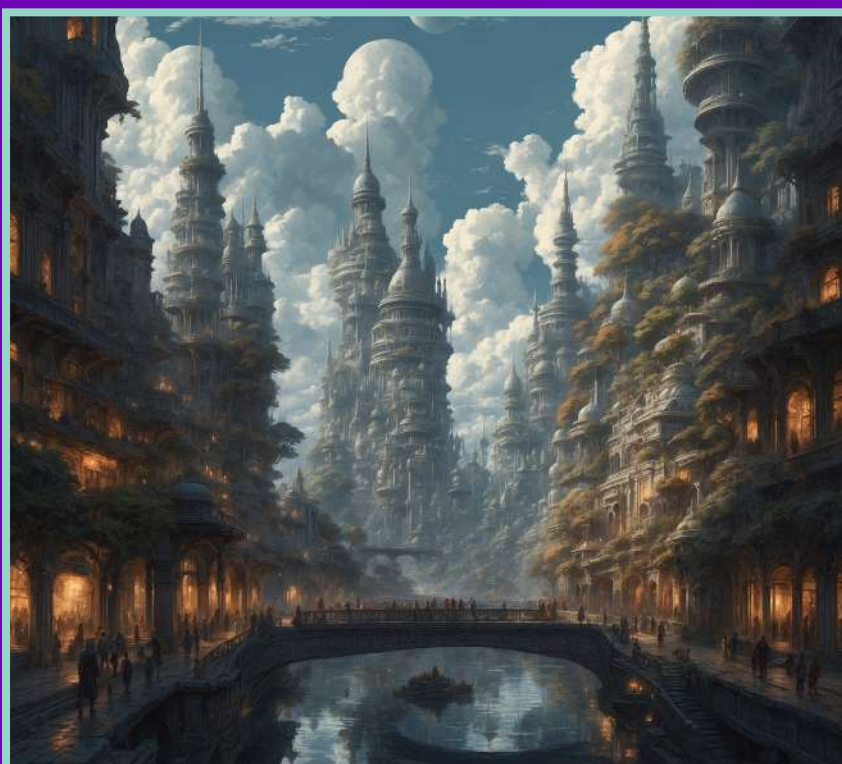
- **Healthcare** - Generative AI can be used for drug discovery, disease diagnosis, and patient care.
- **Music** - Generative AI can be trained on a large dataset of music to create new compositions.
- **Gaming** - Generative AI can be used to create new game content, characters, and storylines.
- **Video production** - Generative AI can automate tasks like video compositions, animations, adding special effects, and editing video snippets.
- **Marketing** - Generative AI can use examples of marketing campaigns to create new campaigns.
- **Voice assistants** - Generative AI can produce text or images based on simple prompts.
- **Content creation** - Generative AI can be used to create content like blog posts, articles, and social media posts.



A prompt is a natural language text that requests the generative AI to perform a specific task. Prompt engineering is a new.

The output depends upon the quality of the prompt.

Prompt engineering is the art of asking the right question to get the best output from an Large Language Models (LLM). It enables direct interaction with the LLM using only plain language prompts.



Sample Image :

Prompt : high quality, highly detailed, Picture an imaginative illustration inspired by the fusion of Gustav Doré, Yuko Higuchi, and Syd Mead, theme revolve around a sci-fi cityscape where mythical creatures coexist with futuristic elements, creating a harmonious blend of the past, present, and future, The color palette be a dynamic fusion of Doré's classical monochromes, Higuchi's playful and vibrant hues, and Mead's sleek and futuristic tones, This collaborative masterpiece would be a visual journey through a world where the boundaries of time and genre seamlessly dissolve, inviting viewers to explore the richness of a cross-temporal and fantastical narrative, by yukisakura, high detailed.

About UJA

As your business grows, it becomes essential to start considering expansion abroad so that you can escape saturated markets and explore new opportunities and ways of doing business. One of the pioneers in India to facilitate market entry to foreign companies, UJA provides business advisory in India and abroad as well as corporate services. Our empowering solutions cover the entire spectrum of your business life cycle, bringing efficient solutions and driving revenue-impact decisions to ensure clear potent ROIs.

Headquartered in Pune, we have a total of four locations across India with other offices in Bengaluru, Delhi, and Mumbai. Additionally, we have two offices in France - Paris and Marseille - one in Italy, and representation in Spain, Germany, UAE, and Japan. We offer a broad range of services, from corporate tax to business and transaction advisory, as well as tax and regulatory services.



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