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An Investigation of Artificial Intelligence in Business

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ABSTRACT

Artificial intelligence is revolutionising business, the economy, and society through transforming stakeholder and citizen experiences and connections. Over the last few years, global spending on cognitive and AI systems has been rapidly increasing. Neural Networks, Machine Learning, and Deep Learning are terminologies that are currently related with terms like digital marketing, decision making, Industry 4.0, and company digital transformation. The competitive advantages of using Artificial Intelligence by economic entities will raise interest in this technology. The purpose of this study is to examine cutting-edge research on Artificial Intelligence in business.

Key Words: Business, Artificial Intelligence, Network, Ecommerce

Introduction

The Major use cases of Artificial Intelligence in business management include predictive analysis, sentiment analysis, process automation, customer analysis, security surveillance, and job optimization. Predictive analytics can help business to predict future trends based on their current business data. You're probably wondering how to start your business transformation using AI. The first step is to consult with an expert to identify the potential AI implementations in your organisation. Artificial Intelligence is currently one of the hottest buzzwords in tech and with good reason. The last few years have seen several innovations and advancements that have previously been solely in the realm of science fiction slowly transform into reality. Experts regard artificial intelligence as a factor of production, which has the potential to introduce new sources of growth and change the way work is done across industries.

Artificial Intelligence is the computer-controlled robot, or a software, think intelligently like the human mind. AI is accomplished by studying the patterns of the human brain and by analyzing the cognitive process. The outcome of these studies develops intelligent software and systems. Artificial intelligence is the ability of machines to replicate or enhance human intellect, such as reasoning and learning from experience. Artificial intelligence has been used in computer programs for years, but it is now applied to many other products and services. For example, some digital cameras can determine what objects are present in an image using artificial intelligence software. In addition, experts predict many more innovative uses for artificial intelligence in the future, including smart electric grids.

AI uses techniques from probability theory, economics, and algorithm design to solve practical problems. In addition, the AI field draws upon computer science, mathematics, psychology, and linguistics. Computer science provides tools for designing and building algorithms, while mathematics offers tools for modelling and solving the resulting optimization problems.

Need for Artificial Intelligence

- To create expert systems that exhibit intelligent behavior with the capability to learn, demonstrate, explain, and advise its users.
- Helping machines find solutions to complex problems like humans do and applying them as algorithms in a computer-friendly manner.

Approaches of AI

There are a total of four approaches of AI and that are as follows:

- **Acting humanly (The Turing Test approach):** This approach was designed by Alan Turing. The ideology behind this approach is that a computer passes the test if a human interrogator, after asking some written questions, cannot identify whether the written responses come from a human or from a computer.
- **Thinking humanly (The cognitive modeling approach):** The idea behind this approach is to determine whether the computer thinks like a human.
- **Thinking rationally (The "laws of thought" approach):** The idea behind this approach is to determine whether the computer thinks rationally i.e. with logical reasoning.
- **Acting rationally (The rational agent approach):** The idea behind this approach is to determine whether the computer acts rationally i.e. with logical reasoning.

History of Artificial Intelligence

Here's a brief timeline of the past six decades of how AI evolved from its inception.

- 1956 - John McCarthy coined the term 'artificial intelligence' and had the first AI conference.
- 1969 - Shakey was the first general-purpose mobile robot built. It is now able to do things with a purpose vs. just a list of instructions.
- 1997 - Supercomputer 'Deep Blue' was designed, and it defeated the world champion chess player in a match. It was a massive milestone by IBM to create this large computer.
- 2002 - The first commercially successful robotic vacuum cleaner was created.
- 2005 - 2019 - Today, we have speech recognition, robotic process automation (RPA), a dancing robot, smart homes, and other innovations make their debut.
- 2020 - Baidu releases the LinearFold AI algorithm to medical and scientific and medical teams developing a vaccine during the early stages of the SARS-CoV-2 (COVID-19) pandemic. The algorithm can predict the RNA sequence of the virus in only 27 seconds, which is 120 times faster than other methods.

Applications of AI

Expert systems

Expert systems are the quintessential symbolic AI technologies. Symbolic means information is stored and transferred in symbolic containers, or entities, rather than as raw data. Imagine a human anatomy database including these symbolic entities: head, eyes and brain. Alone, these symbols are meaningless. However, we can add considerable meaning to our database with a couple of association this is how expert systems work. Though lists of ifs, then and associations written in human-like language.

Imagine if our database from above was an expert system we could use during a human anatomy exam we had forgotten to study for. Oops. We could ask questions like "do heads contain eyes" and receive answers. However, if we asked questions like "how many eyes do heads contain", our database and AI would be no help. This is a serious limitation. Obviously, an expert system containing enough data points and data associations has many uses, especially in fields where other forms of AI are unavailable, use cases are simple or when human experts are readily available for clarification. However, for many people, machine learning and Natural Language Processing (NLP) embody the be all and end all attributes of real AI.

Machine learning

Machine learning covers a range of statistical techniques giving computers the ability to learn. That is, they progressively improve their capacity to execute a task. There are more than a dozen of these statistical techniques, one of which is deep learning. Deep learning using artificial neural networks Deep learning represents the antithesis of expert systems and symbolic AI. Whereas humans write expert systems using strings with conscious and subconscious real-world meanings, deep learning allows associations and characteristics to emerge.

These associations are is possible because deep learning uses artificial neural networks (sets of nodes in a series of layers). Basically, deep learning is nodes, layers and connections between these. Deep learning, unlike expert systems, is sub symbolic AI. The question "do heads contain eyes" has an answer: yes. And the question "how many eyes do heads contain" has an answer: usually 2. However, whereas an expert system could only answer these questions if the answers were given to it by a human, a sub symbolic AI could answer them despite never being told the actual answers (depending on its training data). For example, if the training data was a series of photos of humans and animals with species, heads, and eyes labelled, then an AI could answer questions like: what species is in this photo? And, for this species, how many eyes do heads usually contain?

Natural-language processing

Natural-language processing (NLP) is an area of AI concerned with the interactions between computers and human (natural) languages. NLP separates into 2 sub-categories: natural-language understanding and natural-language generation, and is closely related to automated speech recognition (ASR), which is another category of AI. NLP is the cornerstone of chatbots (which are all the rage) and virtual assistants (such as Siri). In Science Fiction books and movies, AI system nearly always have NLP technologies.

Computer vision

Computer vision is to images as Natural-language processing (NLP) is to words. Computer vision is an interdisciplinary field concerning how computers can see and understand digital images and videos. There's no better example of computer vision than Facebook's facial recognition AI, which is now human-like in recognising faces. DeepFace (Face book's deep learning AI specialising in computer vision) has 97.25% accuracy, regardless of lighting conditions or angles. Face book has a big edge in the computer vision game because (in an age of machine learning) data is digital gold. They are now training deep learning models using 3.5 billion Instagram photos and 17,000 hashtags.

Automated speech recognition

Automated speech recognition (ASR) and Natural Language Processing (NLP) are linked, but unique categories of AI.. Imagine you are late for a meeting and you need to send a message to your friend, so you open your phone, click Dictation, say "Hi John, I'm on my way" and click send. In this scenario, does your phone need to know "Hi John" is a greeting? Does your phone need to know "I'm on my way" means you're moving from one location to another location? No. Your entire phone needs to know is the sounds you made correspond with particular words. Another break between ASR and NLP is demonstrated by research by scientists from University of California, Berkeley, who trained an AI to attack speech-to-text systems.

The AI could even hide speech altogether!

By starting with an arbitrary waveform instead of speech (such as music), we can embed speech into audio that should not be recognized as speech; and by choosing silence as the target, we can hide audio from a speech-to-text system. - University of California, Berkeley the AI did not attack NLP by speaking in codes (which could be a method of defeating NLP AIs), but instead attacked its ASR AI by preventing the words being said from being heard. In a nutshell, whereas NLP is concerned with the meaning of words, and computer vision is concerned with recognising images and videos, ASR is concerned with the meaning of sounds.

Machine learning is common in all three of these domains. Given any audio waveform, we can produce another that is over 99.9% similar, but transcribes as any phrase we choose (at a rate of up to 50 characters per second). - University of California, Berkeley

Gaming − AI plays important role for machine to think of large number of possible positions based on deep knowledge in strategic games. For example, chess, river crossing, N-queens problems and etc.

Vision Systems − Systems understand, explain, and describe visual input on the computer.

Intelligent Robots − Robots are able to perform the instructions given by a human.

AI Planning

Automated planning and scheduling (AI Planning) is a branch of AI concerning strategies and action sequences. Self-driving cars and other autonomous robots need AI Planning to operate. Boston Dynamic's Atlas is designed to operate outdoors and inside buildings. You can see Atlas open doors, walk on uneven ground, cross snow-covered terrain, and stack boxes in a warehouse. A couple of minutes in, there are even a scene where a human intentionally attempts to prevent Atlas from stacking boxes by knocking them out of its hands. Like other types of AI, machine learning plays a big role in advanced AI Planning, which, unlike classical control and classification problems, requires complex solutions that must be discovered and optimized in multidimensional space.

Major Goals

- ✓ Knowledge reasoning
- ✓ Planning
- ✓ Machine Learning
- ✓ Natural Language Processing
- ✓ Computer Vision
- ✓ Robotics

Artificial intelligence has its pluses and minuses, much like any other concept or innovation. Here's a quick rundown of some Pros and Cons.

Pros

- ➢ It lowers human mistake.

- It never sleeps, so it is accessible 24 hours a day, seven days a week.
- It never gets bored, so it can easily do repetitious jobs.
- That is quick.

Cons

- It is expensive to deploy;
- it cannot replicate human ingenuity;
- it will undoubtedly displace certain occupations, resulting in unemployment; and
- people may grow unduly reliant on it.

Types of artificial intelligence

Learning in AI can fall under the types "narrow," "general," and "super." These categories demonstrate AI's capabilities as it evolves—performing narrowly defined sets of tasks, performing the same ability to think like humans (general), and performing beyond human capability. Then, there are four main types of AI as defined by Arend Hintze, researcher and professor of integrative biology at Michigan State University. They are as follows:

1. Reactive machines

Reactive machines are AI systems that have no memory and are task specific, meaning that an input always delivers the same output. Machine learning models tend to be reactive machines because they take customer data, such as purchase or search history, and use it to deliver recommendations to the same customers.

This type of AI is reactive. It performs "super" AI, because the average human would not be able to process a customer's entire Netflix history and feedback customized recommendations. Reactive AI, for the most part, is reliable and works well in inventions like self-driving cars. It doesn't have the ability to predict future outcomes unless it has been fed the appropriate information.

Compare this to our human lives, where most of our actions are not reactive because we don't have all the information we need to react upon, but we have the capability to remember and learn. Based on those successes or failures, we may act differently in the future if faced with a similar situation.

Beat at chess by IBM's supercomputer

One of the best examples of reactive AI is when Deep Blue, IBM's chess-playing AI system, beat Garry Kasparov in the late 1990s. Deep Blue could identify their own and their opponents' pieces on the chessboard to make predictions, but it does not have the memory capacity to use past mistakes to inform future decisions. It only makes predictions based on what moves could be next for both players and selects the best move.

Netflix recommendations

Netflix's recommendation engine is powered by machine learning models that process the data collected from a customer's viewing history to determine specific movies and TV shows that they will enjoy. Humans are creatures of habit—if someone tends to watch a lot of Korean dramas, Netflix will show a preview of new releases on the home page.

2. Limited memory

The next type of AI in its evolution is limited memory. This algorithm imitates the way our brains' neurons work together, meaning that it gets smarter as it receives more data to train on. Deep learning improves image recognition and other types of reinforcement learning. Limited memory AI, unlike reactive machines, can look into the past and monitor specific objects or situations over time. Then, these observations are programmed into the AI so that its actions can perform based on both past and present moment data. But in limited memory, this data isn't saved into the AI's memory as experience to learn from, the way humans might derive meaning from their successes and failures. The AI improves over time as it's trained on more data.

Self-driving cars

A good example of limited memory AI is the way self-driving cars observe other cars on the road for their speed, direction, and proximity. This information is programmed as the car's representation of the world, such as knowing traffic lights, signs, curves, and bumps in the road. The data helps the car decide when to change lanes so that it does not get hit or cut off another driver.

3. Theory of mind

The first two types of AI, reactive machines and limited memory, are types that currently exist. Theory of mind and self-awareness are AI types that will be built in the future. As such, there aren't any real world examples yet. If it is developed, theory of mind AI could have the potential to understand the world and how other entities have thoughts and emotions. In turn, this affects how they behave in relation to those around them. Humans

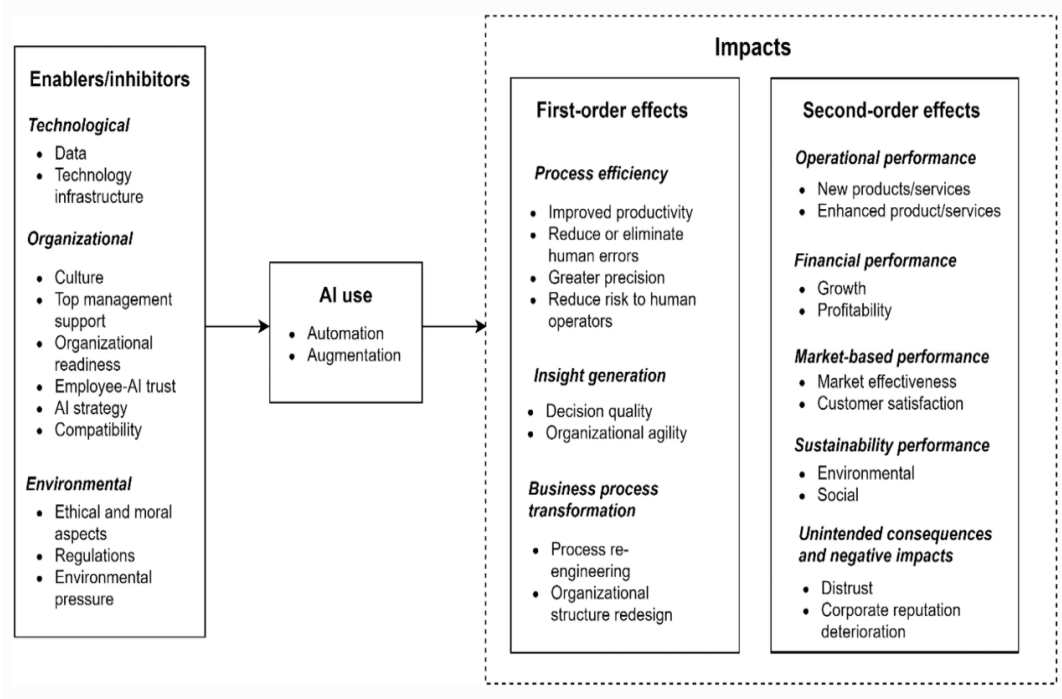
understand how our own thoughts and emotions affect others, and how others' affect us—this is the basis of our society's human relationships. In the future, theory of mind AI machines could be able to understand intentions and predict behaviour, as if to simulate human relationships.

4. Self-awareness

The grand finale for the evolution of AI would be to design systems that have a sense of self, a conscious understanding of their existence. This type of AI does not exist yet. This goes a step beyond theory of mind AI and understanding emotions, to being aware of themselves, their state of being, and being able to sense or predict others' feelings. For example, "I'm hungry" becomes "I know I am hungry" or "I want to eat lasagna because it's my favourite food." We are a long way from self-aware AI because there is still so much to uncover about the human brain's intelligence and how memory, learning, and decision-making work.

AI for business value

AI is best at maintaining human well-being when such systems take over repetitive tasks with a level of accuracy and precision only available to systems that are not susceptible to boredom and fatigue. This is an area where AI can easily fill in for a human weakness.AI improves a company's cost base—augmenting human capability to motivate greater and more expansive efficiencies. And AI helps enhance or protect top line revenue, experience and engagement. An estimate by experts shows that AI can help in increasing production by 40% by the end of 2035. AI benefits include data-driven choices that improve process efficiency, increase productivity, and reduce operational costs. It can also aid in improving scalability and product development value.



Regular use of Artificial Intelligence in the Workplace

Artificial intelligence is all around us. You have likely used it on your daily commute, searching the web or checking your latest social media feed. Whether you're aware of it or not, AI has a massive effect on your life, as well as your business. Here are some examples of AI that you may already be using daily.

Artificial intelligence in business management

Applications of AI in business management include: spam filters, smart email categorisation, voice to text features, smart personal assistants, such as Siri, Cortana and Google Now, Automated responders and online customer support, process automation, sales and business forecasting, security surveillance, smart devices that adjust according to behaviour, automated insights, especially for data-driven industries (eg financial services or e-commerce)

Artificial intelligence in e-commerce

AI in e-commerce can be evident in:, smart searches and relevance features, personalisation as a service, product recommendations and purchase predictions, fraud detection and prevention for online transactions, dynamic price optimisation

Artificial intelligence in marketing

Examples of AI in marketing include: recommendations and content duration, personalisation of news feeds, pattern and image recognition, language recognition - to digest unstructured data from customers and sales prospects, ad targeting and optimised, real-time bidding, customer segmentation, social semantics and sentiment analysis, automated web design, predictive customer service

These are only some of the examples of AI uses in business. With the pace of development increasing, there will likely be much more to come in the near future. And with the emergence of new and diverse Industry 4.0 technologies, there are many other examples of digital innovation in business.

How is AI used in Business

Now that you have a basic understanding of how AI can benefit your organization (if not, please refer to the video above), let's explore the possibilities of optimizing business management processes with Artificial intelligence. As you know, a business runs on many wheels. Each wheel is a department. The success of a business is defined by how well these different wheels work smoothly and how well they work in tandem. So let's dig into detail on how implementing Artificial Intelligence in business management can help different departments improve your business processes.

HR department

Managers in an organization spend most of their time on a variety of administrative, coordination, and control tasks. For instance, HR managers must constantly juggle shift schedules because of staff members' illnesses, vacations, etc. From employee on-boarding to performance analysis, AI can offer many benefits to HR management processes. Here is a detailed article explaining how AI can help human resource departments.

A few examples of AI use cases in the HR department are:

Job automation

Using Robotic Process Automation, time-consuming tasks such as resume analysis, salary processing, responding to employee inquiries, performance evaluation, scheduling meetings based on attendee availability, etc can be automated.

Job interviews

AI can simplify the interview process and takes up a considerable portion of the workload of the HR manager.

AI can help to-

- Easily shortlist resumes from a large database of resumes.
- Video interview with AI-powered analytics can monitor the candidate's facial expressions while they answer to calculate their confidence level.
- Automate the initial few rounds of employee interviews.

Responding to applications and queries

Reaching out to applicants as quickly as possible is essential otherwise; losing the candidate to competitors becomes a big possibility. Applicants who have queries about their candidature and other related information seek quick responses. AI chat bots can step in and expedite this task and reduce the burden on the HR department.

AI chat bots perform most noteworthy tasks such as –

- ✓ Timely respond to inquiries from employees as well as candidates.
- ✓ Notify candidates with updates.
- ✓ Interactively collect feedback from employees.

Screening resumes

While the current applicant tracking systems (ATS) have played a major role in reducing the burden. The spontaneous flexibility acts as a competitive edge for AI when compared to criteria-based systems. AI can screen thousands of resumes across third-party candidate providers that the company uses. And could be even programmed to add only the best-suited candidate to their ATS.

Marketing/sales management

Incorporating Artificial intelligence in business management can help marketers and sales people to provide highly personalized consumer experiences. In addition it costs less than traditional high-dollar campaigns. Future optimization primarily depends upon the interaction of the consumer with a product or service.

Here are a few innovative ways marketers can use AI in their campaigns:

Lead scoring

Propensity models generated by machine learning can be trained to score leads based on certain criteria. It helps the sales team to establish how 'hot' a given lead is and whether they are worth devoting time to. Contacting most relevant leads saves considerable amount of time. Moreover, they can concentrate their effort where it is most effective.

Optimize digital advertising campaigns

Machine learning algorithms analyses large amounts of historical data. In order to determine which ads perform best on which people and at what stage in the buying process. With the help of this data, they can serve them with the most effective content at the right time.

Predictive analytics

Propensity modelling can be used to predict the likelihood of a given customer to convert. It can even predict at what price a customer is likely to convert or which customer makes more purchases. This will help the managers to come up with creative strategies to push less popular products.

Optimizing finance and operations

Let's take a look at how AI can improve the operational efficiency of Finance and Ops departments.

Fraud detection:

The traditional techniques for fraud detection use static rules-based systems, which has several disadvantages associated with it, which make it less effective. Today, AI can analyze business transactions and evaluate their threat score. This score is then ranked against a pre-established threshold that will mark the transaction as fraudulent or not. The main idea behind this is that fraudulent transactions have very different characteristics from legitimate ones. This can help to;

- Identify rarity.
- Warning signs of fraud attempts.
- Incidences.

Automated virtual financial assistants

AI can monitor events, stock and bond price trends. Portfolio and financial goals of the user serves as the prime metrics for AI. It can then give recommendations regarding bonds and stocks to buy or sell. These systems are commonly called "**Robo-Advisors**" and are getting more popular in established financial companies and fintech start-ups.

Managing customer data

Efficient data management is key to business success. Technologies like NLP, Data mining and text analytics can help to retrieve information from business documents efficiently and accurately.

Uses of AI in managing customer data includes –

Business intelligence

Business Intelligence solutions can help businesses to identify new opportunities and implement effective strategies based on key insights. Here is a detailed article explaining the possibilities of business intelligence. Applications of AI in the manufacturing sector opens up a wide range of opportunities for optimizing the manufacturing processes. Technology has drastically changed how organizations go about their manufacturing operations.

It is not a stretch to say that Artificial Intelligence in business management helps in every aspect of a business. Whether for simple tasks such as suggesting products or providing customers with basic customer service. Even in complicated measures such as conducting software tests and completing extensive problem-solving procedures. For this reason, it is important to say that Artificial Intelligence had become an unavoidable factor in our world.

Knowledge management

AI provides the mechanisms to enable machines to learn. Incorporating AI in the delivery of knowledge will facilitate fast, efficient, and accurate decision making. AI provides the capabilities to expand, use, and create knowledge in ways we have not yet imagined

Risk management

For financial institutions, risk assessment while giving loans is a very complex and critical process. AI can simplify most processes by analyzing relevant data of the prospective borrower. AI plays a key role in analyzing data related to –

- ✓ The latest transactions.
- ✓ Market trends.
- ✓ Recent financial activities.

Nevertheless, it shows the potential risks involved in giving loan. In fact it makes risk management much easier for businesses.

The future scope of Artificial Intelligence in India

The adoption of Artificial Intelligence in India is promising. However, it is currently in its early stages. While some industries, such as IT, manufacturing, automobiles, etc., are taking advantage of the prowess of AI, there are still many areas in which its potential has not been explored. The immense potential present in AI can be understood by the various other technologies included under the umbrella of AI. Examples of such technologies include self-improvement algorithms, machine learning, pattern recognition, big data, and many others.

It is predicted that hardly any industry will be left untouched by this powerful tool in the next few years. It is the reason why AI has so much potential to grow in India. In this comprehensive blog, we have discussed some of the areas in which AI is being used:

Artificial Intelligence job opportunities

According to a report published by Forbes, AI job opportunities are continuously increasing at 74% annually. It is a no-brainer that today, AI is one of the most in-demand technologies, and it has an impact in almost every field. As a result, the demand for AI professionals continues to grow. As the number of job opportunities increases, it is the best time to explore your career in AI.

Below, we have compiled a list of different areas where AI is used or has immense potential to grow.

Banking

Banking is nothing new, thanks to the trends in Artificial Intelligence and Machine Learning technologies. The sector has rapidly adopted technology to keep up to date with the current market trends. It uses this technology to record customer data, which was previously a monotonous manual task. With the rapid increase in the amount of data generated and stored in the banking sector today, Artificial Intelligence and ML allow professionals to do this accurately and efficiently. How AI has made a significant difference in banking includes better customer support, enhanced data quality, fraud prevention, digital assistants, and more. One of the most progressive sectors in the world today is healthcare. In the next section, you will read how Artificial Intelligence has affected this sector and how it will continue to do so.

Health care and medicine

According to one of the studies conducted by Forbes, the realm of AI can add value to life, as has already been observed over the years. The healthcare sector uses this technology to its advantage in several ways and constantly innovates. AI use case is the collaborative Cancer Cloud, developed by Intel and the Knight Career Institute. Cloud collects past data of cancer patients and other patients with similar diseases to help doctors diagnose cancer early based on the symptoms they have shown and compare them with previously available data. The best treatment for this deadly disease is to prevent it from reaching its advanced stage.

In addition, Eve, an AI-based robot built by a team of scientists from the top universities of Aberystwyth, Manchester, and Cambridge, discovered an element often found in toothpaste that can cure malaria. It is proof that Artificial Intelligence will play an important role in the medical field in the coming times. AAI is also used in health care and medicine in other similar fields, such as drug testing, synthetic biology, etc. You can also be sure that AI will accelerate the process of scientific research and development, which may well aid this field.

Cyber Security:

This segment has gained popularity in the last few years, and AI has supported this IT sector at a high level. AI is playing an active role in preventing companies from being scammed or caught by hackers. AI technology is being implemented in cloud services that tend to create such networks from which early detection of fraud or scams can be carried out easily.

Education:

In the education sector also, AI is gaining prominence. Since AI is being implemented in various sectors, the education sector is widening its spectrum and including AI learning as an important part. All this is done keeping in mind the latest AI advancements that are impacting youth and running domains.

Risks associated with AI

- Are you aware of the risks associated with AI and how to manage them? A beginner should be aware of the potential risks associated with AI processes and how to deal with them. Some of the common risks associated with AI are as follows:
- High Implementation Cost - Do you want to install chatbot software for your firm/business? The implementation cost of AI is high compared to setting up other technologies like cloud technology, database, etc. A subset of AI, Machine Learning, and Deep Learning also have high implementation costs. Why do firms still opt for AI despite the high implementation cost?
- This is because almost every business has realized the future scope of Artificial Intelligence. Although its implementation cost is high, an AI setup can help you in the long run, and it is sure to save you money and resources by reducing the reliance on human labour in your organization.

- Human Replication - It all started in 1950 when Alan Turing conducted the 'Turing Test' to define the ability to think in machines. Since then, the replication of human intelligence using AI has been constantly debated. The bright realm of Artificial Intelligence also comes with its risks which have to be handled by AI experts.

AI Future Trends to 2025

- ✓ The digital era provides companies with numerous possibilities to create value. Data, AI, and analytics are now the primary drivers of business strategy.
- ✓ As I keep saying, "AI is the Future, and that Future is now!" Yet, for many, the ability to “THINK AI FUTURE" is beyond them.
- ✓ The future requires leaders such as chief data officers (CDOs), CEOs, and CIOs to elevate data and analytics strategies, advancing a new vision of business problem solving.
- ✓ It changes the management ethos and culture of the company. In terms of AI alone, the following 4 areas are critical strategic issues.

AI Core Technologies

- The pressing need for AI operational-ization will shift to continuous delivery of AI-based systems. Leaders must focus on tech that bridges the gap between development and continuous value delivery.
- By 2023, companies that scale graph techniques will deliver 5x more AI models, for multiple use cases, into production than those that don’t.
- By 2024, 70% of companies will use cloud-based AI to operationalize AI to alleviate concerns about integration and upscaling.
- By 2024, use of synthetic data and transfer learning will halve the volume of real data needed for machine learning (ML).

AI Enterprise Applications

- Companies will use AI to make major, measurable gains in business value. IT leaders should identify promising opportunities arising from AI embedding in enterprise apps such as contract management, digital commerce, human resources (HR), and enterprise resource planning (ERP).
- By 2023, 75% of HR service management inquiries will be initiated through conversational platforms.
- By 2023, ERP data will be the basis for 30% of AI-generated predictive analyses and forecasts.
- Through 2023, up to 10% of AI training data will be poisoned by benign or malicious actors
- By 2024, 10% of digital commerce orders will be predicted and initiated by AI.
- By 2024, the manual effort required for the contract review process will be halved in companies that adopt advanced contract analytics solutions.

AI Operational Networks

- The use of AI in enterprises has tripled during the past 2 years, requiring IT leaders to revaluate their core infra-structures and optimize for AI productivity. Data and analytics leaders need to devise AI orchestration platforms to accelerate and sustain AI operationalization.
- By 2025, 50% of companies will have devised AI orchestration platforms to operationalize AI, up from fewer than 10% in 2020.
- By 2025, AI will be the top category driving infrastructure decisions, due to the maturation of the AI market, resulting in a 10x growth in compute requirements.
- By 2025, 50% of companies implementing AI platforms will use open source tech, alongside proprietary vendor offerings, to deliver state-of-the-art AI capabilities.

AI Impact on Society

AI has second-order consequences that might not be readily discernible. App leaders responsible for AI need to understand these impacts in order to prepare companies for the impact on people, employees, legislation, and society.

- In 2023, 20% of successful account takeover attacks will use deep fakes to socially engineer users to turn over sensitive data or move money into criminal accounts.
- By 2024, 60% of AI providers will include a means to mitigate possible harm as part of their technologies.
- By 2025, 10% of governments will use a synthetic population with realistic behaviour patterns to train AI while avoiding privacy and security concerns.
- By 2025, 75% of conversations at work will be recorded and analyzed, enabling the discovery of added organizational value and risk.
- By 2025, the concentration of pre-trained AI models among 1% of AI vendors will make responsible AI a societal concern

Conclusion

AI is becoming increasingly crucial for organisations seeking to produce economic value and gain a competitive advantage. Many AI programs, however, fail despite the investment of time, effort, and resources. We give a narrative overview in this study to explore how businesses might deploy AI and what value-generating strategies such AI employs. Furthermore, by understanding how AI may be used, businesses can make better judgements on where to employ AI solutions in their value chain. Finally, understanding the potential consequences of AI adoption might help businesses better prepare to include AI into their operations.

Reference:

Books:

1. Artificial Intelligence, S.Gupta, 3rd Edition, Shubham Puplication. 2018.

2. Artificial Intelligence, Rajiv Chopra, Published by S. Chand & Company Ltd. Sultan Chand & Company, 2018, ISBN 10: 8121939488 ISBN 13: 9788121939485

3. Artificial Intelligence Principles and Application, Vinoth Chandra.s.s, PHI Publication.2019.

Journals

Trends in Artificial Intelligence, Journal of Artificial Intelligence | Research Articles in USA (scholars. Direct)

Web sites

- https://www.nibusinessinfo.co.uk
- https://www.javatpoint.com
- https://www.linkedin.com/
- https://www.coursera.org/articles/types-of-ai
- https://www.geeksforgeeks.org/
- https://becominghuman.ai
- https://www.clickworker.com
- https://www.linkedin.com: Frank Feather – Qaimeta, Check Out Our Future-Proof "QUANTUM + AI + METAVERSE" Triad Strategy, World-Leading Business.