ARTIFICIAL INTELLIGENCE AND ITS FUTURE

Abstract

Artificial intelligence (AI) is a field that is in its advancement at a rapid pace. There are a lot many new applications of technology that are used in the extending and expanding fields of Artificial Intelligence. With the development of electronic technologies like sensor technology, wiresless sensor networks, Internet of Things Technology, and Artificial Neural Networks, the field of Artificial Intelligence has gained great development and advancement. As a result, it has gradually reached industries such as the robot industry, Orchestration, medical field, manufacturing, environmental protection, disaster management, defense, education, media, journalism, etc. It's so wonderful that Artificial Intelligence has become one of the most trending technologies in almost every industry, along with global technology companies. As science and technology keep on growing t, the use of AI in daily life will certainly find its application to a greater extent with a lot of ease, within a few years. Artificial intelligence and especially gadgets gaining knowledge has penetrated all spheres of the present society.

Keywords: Artificial Intelligence and its future, are Embedded Systems, Internet of things, microcontroller, sensors, etc.

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I. INTRODUCTION

Artificial intelligence (AI) is a field that is in its advancement at a rapid pace. There are a lot many new applications of technology that are used in the extending and expanding fields of Artificial Intelligence. With the development of electronic technologies like sensor technology, wiresless sensor networks, Internet of Things Technology, and Artificial Neural Networks, the field of Artificial Intelligence has gained great development and advancement. As a result, it has gradually reached industries such as the robot industry, Orchestration, medical field, manufacturing, environmental protection, disaster management, defense, education, media, journalism, etc. It's so wonderful that Artificial Intelligence has become one of the most trending technologies in almost every industry, along with global technology companies. As science and technology keep on growing t, the use of AI in daily life will certainly find its application to a greater extent with a lot of ease, within a few years. Artificial intelligence, and especially gadgets gaining knowledge has penetrated all spheres of the present society. Four areas observing the maximum advantage from "AI" are:

1. **Artificial Intelligence in the health sector:** The COVID-19 outbreak has attracted ge attention inside the clinical industry. It's well worth mentioning that the increasing development in AI has played a significant role in the combat against the pandemic. Telemedicine, sensible imaging, scientific robots, and pathology-assisted prognosis have assisted clinicians in this epidemic. At the prevention level of COVID-19, device studying algorithms could pick out the "asymptomatic infections" and "remarkable spreaders" of the population who are maximum possibly to be COVID-19 sufferers.

2. **Artificial intelligence + production:** Clever manufacturing unit digital production lines, automatic checking out and actual-time data interaction are being deployed in manufacturing sectors., more and more, information suggests that the destiny market prospect of AI is very stunning, and it also creates greater new possibilities for the development of smart manufacturing. ZTE's Nanjing Binjiang 5G wise production Base specializes in and implements the concept of "production 5G with 5G".

3. **Artificial intelligence and environmental protection:** AI can replace manual environmental protection work where these operations have low efficiency, high costs, and high risks associated. Furthermore, AI technology and products can assist people in the prevention of environmental pollution and destruction, for example tracking deforestation with machine learning algorithms.

4. **Artificial intelligence trends:** Following the 2 climaxes of AI development within the twentieth century, deep curiosity has sparked off the 0.33 wave of AI with its great performance in computerized function. Considering that 2006, deep learning made fantastic breakthroughs in voice and vision popularity skills from its budding to adulthood. A brand new technological step forward with a cycle of approximately 20 years has been gestating. Four trends are getting increasingly apparent, consistent with the development technique of AI generation.

5. **Multiplied integration of artificial intelligence and company:** Usually, Speak me, the utility of AI in the industry is in its infancy, and there are though some difficulties that avoid the implementation of application situations. Therefore, AI must be carefully included in the industry, not only to promote the implementation of AI software

conditions, but also to push ahead the enhancements in simple statistics and platform generation, and to assemble a bridge that efficaciously connects with the conventional enterprise ecology. IoT is a trending technology in the field of Artificial intelligence. "Internet of Things (IOT)" is bureaucracy of tangible objects or "things" equipped with electronic device, like sensors, that promotes ideas of communication between these objects and exchange information. This science combines nodes, (containing sensors, micro-controller, input-utput modules, communication modules, etc.) Wirelessly through Wireless Sensor Network technique in electronics. Bridge that efficaciously connects with the conventional enterprise ecology. IoT is a trending technology in the field of Artificial intelligence. "Internet of Things (IOT)" is bureaucracy of tangible objects or "things" equipped with electronic device, like sensors, that promotes ideas of communication between these objects and exchange information. This science combines nodes, (containing sensors, micro-controller, input-utput modules, communication modules, etc.) Wirelessly through Wireless Sensor Network technique in electronics.

Embedded systems and their arrangements based IoT finf application and execution in observation of EGC, blood pressure, heart rate, pH levels, etc. IoT Technology enables the listening of a patient from aloof extents as well. This feature of specific Embedded Systems may be used for improving the health status of the underdeveloped areas, like villages. Artificial Intelligence finds its application in the field of judiciary as well. In the closing few years, scholars, practitioners and policymakers have realised that Artificial Intelligence (AI) may deliver disruptive modifications to the functioning of courts and mainly judicial decision-making.1 With few courts which utilize AI-based systems, the debate has been typically conjectural and futuristic,2 on the other hand pupils expand their analysis on the few on hand systems that support judges' decision-making. The disruption is expected to come, and software developers are inflating expectations. However, the very idea that judges finding out cases will have to think about suggestions made via algorithms, or that algorithms will decide suites and cases besides the involvement of judges catches the attention of all those involved in the administration of justice.

Future technology will increasingly rely on artificial intelligence (AI). This holds true for many other businesses that rely on IT just as much as it does for information technology (IT). A decade ago, AI technology appeared like something out of science fiction; today, we unknowingly employ it in everyday activities like automation, facial and speech recognition, and intelligence research.

Artificial intelligence (AI) and machine learning (ML) have replaced conventional computing techniques, revolutionising many sectors' daily operations. Leading AI has transformed everything in a relatively short period of time, from manufacturing and research to streamlining the finance and healthcare industries.The way the IT sector operates has been positively impacted by AI and associated technologies. Simply described, artificial intelligence is the study of how to make computers into intelligent machines, something that would not otherwise be achievable without direct human involvement. AI and machine learning can be used to design systems that can mimic human behaviour, offer answers to challenging and complex problems, and further develop simulations with the goal of becoming human-level AI by utilising computer-based training and advanced algorithms. By 2025, it is predicted that the AI market would grow to $190 billion. Seventy-five percent of enterprise apps will use AI technology by 2021, when global

spending on cognitive and AI systems will total $57.6 billion. By 2030, AI is predicted to increase China's GDP by 26.1 percent and America's GDP by 14.5 percent. Locally, 83 percent of firms consider AI to be a strategic priority, and over the next 12 months, 31 percent of creative, marketing, and IT professionals want to invest in AI technologies. The most important data initiative for business professionals in the coming year, according to 61 percent of them, is using AI and machine learning. A whopping 95% of business executives who are proficient in big data use AI technologies as well.

6. **Effects of AI on information technology:** Many fundamental problems in the IT business are now being solved and optimised by new developments brought about by the digital transformation and the adoption of AI technology by many industries. Almost all technological applications, including information technology, are centred on artificial intelligence (AI). The burden on developers has been lessened by the integration of AI systems with W.T. by increasing productivity, increasing efficiency, and guaranteeing quality. Previously nearly impossible, the development and deployment of IT systems on a broad scale is now feasible thanks to AI's creation of sophisticated algorithmic functions.

7. **Higher-quality systems:** When it comes to protecting confidential data of any kind, including financial and personal information, data security is crucial. Large volumes of consumer and strategic data are kept in storage by both public and commercial enterprises, and they must always be kept secure. Artificial intelligence can offer the necessary level of security to build a high-security layer inside all of these systems by utilising cutting-edge algorithms and machine learning. AI will assist in identifying potential risks and data breaches while also offering the necessary precautions and solutions to prevent any system flaws.

8. **Increased productivity in coding:** In addition, artificial intelligence employs a number of algorithms that can directly assist programmers in finding and fixing software issues as well as in the authoring of code. In order to help developers write clean, bug-free code, some forms of artificial intelligence have been developed to make suggestions. This has increased efficiency and productivity. The AI system will be able to make helpful suggestions by analysing the structure of the code, which will increase productivity overall and reduce downtime during production

9. **Higher automation:** The fact that much of the "legwork" can be completed with little to no human involvement is one of the main advantages of automation. IT organisations can greatly reduce the number of human hours spent on backend procedures by automating them with deep learning applications, which can provide significant cost benefits. Numerous AI-enabled techniques will also get better over time as their algorithms get smarter and learn from their errors.

II. IMPROVEMENTS IN APPLICATION DEPLOYMENT DURING SOFTWARE DEVELOPMENT

The various phases of software development must be taken into consideration when discussing application deployment control. This indicates that the control over software versioning is essential and extremely helpful during the development stage. And because AI is all about foreseeing potential difficulties, it has evolved into a crucial and extremely effective tool for spotting and anticipating concerns at this level. As a result, they can be

avoided and/or rectified without encountering any significant difficulties, allowing developers to enhance the performance of the programme earlier rather than later.

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Enhancing Quality Assurance Using the appropriate tools during the development cycle is a key component of quality assurance. To put it another way, AI techniques can assist software engineers in using the appropriate tools to resolve various application defects and difficulties and automatically modify them throughout the development cycle.

1. **More effective server optimization:** The hosting server is frequently inundated with millions of requests every day. When this occurs, the server must load any requested web pages from users. Some servers may become unresponsive and eventually slow down due to the constant barrage of requests. AI can assist with host service optimization to raise overall operations and customer satisfaction. AI will be utilised more and more to combine IT workforce requirements as IT needs increase and to enable more seamless integration between the current business and technology operations.

2. **Should businesses use AI ?:** Organizations can incorporate artificial intelligence into their processes in a variety of ways. To optimise the business's procedures is one of the most popular justifications. Let's take the example of using AI to automatically remind teams, clients, and departments. In addition to handling a wide range of tedious and repetitive duties that would otherwise take up a lot of people's time, it may also be used to monitor network traffic. They will then have more time and energy to devote to the more important facets of the company as a result of this. The tailored customer experience that AI has to offer is another bonus for businesses looking to utilise it. This will cover everything from making recommendations to responding to inquiries, guiding customers toward items, and more. Businesses can also use AI to combine large amounts of data, which can result in the discovery of strategic insights and business intelligence that might not have been made otherwise. In fact, a whopping 84 percent of companies believe AI will help them gain and/or keep a competitive edge. Similarly, almost 75% of organisations think that this technology will enable them to expand into new markets and endeavours. Additionally, about 80% of tech executives believe that AI will increase their productivity and contribute to the creation of new jobs. Additionally, 79 percent of CEOs believe AI will make their jobs simpler and more efficient, while 36 percent believe AI's main purpose is to free up workers' attention so they can concentrate on more creative tasks. The idea of using AI, however, may appear difficult and alien to many businesses. In fact, according to about 37% of executives, managers' ignorance of how cutting-edge technologies operate is the major barrier to the adoption of AI in their company.

Fortunately, Artificial Intelligence will be considerably simpler to implement when teamed with the IT department.

3. **IT to be replaced by AI ?:** One of the main reasons some businesses are hesitant to use artificial intelligence technology is that they worry that it will render a lot of employment outdated and irrelevant. These expressed worries that "robots" will replace people are not entirely unwarranted because some tasks are better performed by cutting-edge AI, especially when they call for the processing of large amounts of data. Because the machines don't require frequent breaks, superintelligent AI has been employed to complete various jobs faster and more efficiently than the human brain has ever been able to.

   Nevertheless, it's crucial to remember that technological advancements have historically led to the loss of particular jobs. These job losses have, however, always been offset by the creation of new ones, sometimes in industries where none previously existed. Although predicting the future of artificial intelligence is next to impossible, it is somewhat reasonable to state that the development and spread of the technology have followed a similar path. There are now a tonne of new opportunities in both established and cutting-edge industries to AI. However, when it comes to some particular tasks that require human intelligence and emotion, AI will not perform better than humans, contrary to what some people may believe. The backing of artificial intelligence by information technology is crucial for this reason. AI benefits the IT department in a variety of ways, not by replacing it. If we go back not too long ago, many people were concerned that self-driving cars will eventually replace all truck drivers. However, more recently, the former CEO of Uber and the CEO of Waymo have both stated that autonomous vehicles will not be superior to humans. The fundamental justification for this is because technology of this kind will never be able to manage all driving circumstances as well as human drivers can. Human drivers are still more qualified to operate automobiles in some special circumstances than AI, such as inclement weather or heavy traffic.

   There are many parts of information technology that will require human input and cannot be substituted by artificial intelligence, much like self-driving automobiles. Instead, businesses should concentrate on how IT specialists can use AI to increase their organization's overall effectiveness.

4. **How do artificial intelligence and information technology interact?:** As we've mentioned, AI can be utilised in software testing and development, but it can also be combined with IT in the following ways:

5. **Use of AI in Service Management:** When it comes to service management, AI and machine intelligence are also commonly used. Companies may use their resources more efficiently and deliver services at lower costs when they employ AI for service management. AI will provide IT companies with a kind of self-resolving service desk that will enable them to analyse all of their input data and offer users appropriate suggestions and potential solutions. This is made possible by machine learning. They will be able to track customer behaviour, offer ideas, and offer self-help alternatives by utilising AI, which will improve the efficiency of the service management process as a whole. In other words, AI will improve the self-service experience for users.

Additionally, AI can be used to create Computer Vision (CV) technology, which makes use of M.L. algorithms to automate the visual comprehension of a series of images, PDFs, videos, and text images. What occurs is that CV imitates some aspects of human vision, but considerably more quickly and accurately.

AI's machine learning and deep learning capabilities will let systems examine a support desk request. The AI will locate all open requests, compare freshly submitted requests to those that have already been resolved, and quickly interpret based on prior knowledge. A response to the request will be the outcome. A more strategic approach can help IT workers in their operational procedures because AI is such a potent business tool. The AI technology will offer suggestions for process optimization and even assist in creating a thorough company plan by being able to observe and analyse user activity.

6. **IT Operations Using AI (AIOps):** AI for IT operations refers to the use of Artificial Intelligence to the multi-platform management of Information Technology. Machine Learning and Big Data are the two primary technologies employed in AIOps. These utilise both historical and online data to automate data processing and decision-making. Utilizing AIOps is anticipated to produce a continuous analysis that will offer solutions and enable the ongoing implementation of IT infrastructure repairs and enhancements. To accomplish its intended goal and be viewed as a continual enhancement of information systems, the AIOps platform will combine performance management, service management, and automation.

Over the past few years, AIOps has become more and more popular for a number of reasons. We can list the rising number of information sources, the rising volume of data gathering systems, and the rising volume of regulated system changes among them. As a result, it's also getting harder for experts and professionals to maintain track of all of these systems, let alone react to any problems in a useful manner.

7. **Automation of business processes using AI:** Automation is one of the main advantages that AI has for the IT industry, as was already mentioned. Since AI is now a part of practically every job process, a lot of work may be completed without the direct involvement of a human. IT departments will be able to automate many of their operational operations thanks to the capabilities of deep learning technology, which will help them save money and do away with a lot of human labour. In addition, AI algorithms are created to draw lessons from the past, so they are constantly getting better.

An AI system that can comprehend most, if not all, of the intents behind a code is predicted to soon be able to execute and oversee software development mostly on its own. The systems will make real-time corrections with a minimum of human intervention if they are unhappy with the provided code or discover errors and inconsistencies. AI will eventually develop to the point where it can administer and manage business networks automatically. It will initially be able to comprehend patterns produced by network fingerprints while employing the AI system. IT firms will be able to improve their AI applications in other niches by leveraging AI for automation. IT firms will be able to improve their AI applications in other niches by leveraging AI for automation. Simply said, AI will support the operation and management of computer systems and hence support all other forms of computation.

8. **Fraud detection with AI:** Fraud detection has become considerably simpler for businesses thanks to modern technology. However, it has also increased the number of methods that fraudsters are committing fraud at the same time. For the majority of firms, identifying fraud will require a multi-layered strategy that often includes statistical data analysis and AI. Several Artificial intelligence tools are employed in the detection of fraud. One of these is machine learning, which is significantly more efficient than people at processing massive volumes of data. Additionally, it may be made to improve over time in terms of speed and precision. By examining past data that featured comparable conditions, machine learning techniques will be able to spot patterns of fraudulent behaviour. The IT department will then use the combined data to both develop more potent future preventive measures and to take the necessary action against this cybercriminals. In the field of information technology, artificial intelligence has been rapidly gaining ground and is not showing any indications of slowing down. This technology is revolutionising many sectors of the economy by increasing their productivity, effectiveness, and attention to the most important tasks through the application of machine learning and deep learning. Whether we are aware of it or not, artificial intelligence technology is being used in our daily lives and has already ingrained itself into our way of existence. Everyone uses AI in their daily lives, from chatbots to Alexa and Siri. This technology is rapidly evolving and developing. But it wasn't as simple and easy as it seemed to us. To get AI to this point, a lot of time, effort, and contributions from numerous individuals have been required. Due to its revolutionary nature, artificial intelligence is surrounded by debates concerning both its potential and potential effects on people. Although potentially risky, it also presents a fantastic opportunity. AI will be used to improve both defensive and offensive cyber operations. Few employment roles will become obsolete as automation develops thanks to artificial intelligence. People will need to acquire new skills or training for new tasks since current roles won't be needed in the future. Many people will be made unemployed as a result, which may result in financial losses and economic problems. Salespeople used to use data analysis to predict future numbers in the past. But it wasn't particularly precise. You can get more accuracy using ML and AI. The data analysis might be taken out of the salesperson's profile. Numerous tasks that people once performed will now be carried out by machines thanks to the introduction of robots. You could, for instance, assign robots to regularly clean your home. Robotic cleaners already dominate the market. Consequently, the maids who formerly performed these tasks will now take a back seat.

IV. CONCLUSION

A computer will eventually replace a human if it can perform a task better than a human can today. As a result, compared to machine jobs, human professions will require more abilities and flexibility. To think like and beyond machine intelligence will require extensive training and ongoing improvement. This will result in distinct employment practices. A computer will eventually replace a human if it can perform a task better than a human can today. As a result, compared to machine jobs, human professions will require more abilities and flexibility. To think like and beyond machine intelligence will require extensive training and ongoing improvement. This will result in distinct employment practises. You need tech-savvy individuals if your business plans to use artificial intelligence advancements. Not everyone is knowledgeable about the developments in artificial intelligence. As a result, you will need to spend money on deep learning skill adoption and machine learning training. Digital security may be threatened by developments in artificial

intelligence. We've already addressed how this technology uses information you've given it, such your name and age, to tailor its responses to you. The majority of businesses therefore have a lot of information about you.

If the scientists can design comforts for you, they may even present you with solutions that could put your life in peril. It's possible, for instance, to create weaponry that could endanger you. Teaching computers to hack into data and turn it into an opportunity The ranking of solutions in a criminal's perspective can range from high-risk to dangerous.

Artificial intelligence systems operate on a surface level. Data accessibility is the foundation for learning. The technology itself is in its infancy, despite the fact that they provide solutions to the majority of the issues. The technology we are considering, for instance, is not adept at deeply analysing the patterns. They could even develop scenarios and learn the etiquette to help the algorithm think more like people.

A few things need to be taken into account before integrating AI in your company. You can even keep up with the rising demands of the future's machine and artificial intelligence systems with its assistance. It will help you optimise your usage.