

## FUTURE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING BENEFITS VARIOUS INDUSTRY

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# FUTURE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING BENEFITS VARIOUS INDUSTRY

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#### **ABSTRACT**

There has been a lot of hype about machine learning. The advent of big data, cloud computing, and the Internet of Things, together with powerful ML tools, have unleashed a wave of excitement around the benefits of learning. Unfortunately, the results have not always been that impressive. We need better algorithms, better data, more effective models, more powerful computing, and faster and smarter data access to get the most from these techniques. Here we present five challenges to the future of ML. As the AI and big data industries grow, we are witnessing an increasing demand for ML engineers. Machine Learning is fast becoming a core skill for every digital leader and will remain so for the foreseeable future. ML can transform data into knowledge. This is something organizations need to create insights from data. In this paper, we discuss the potential of using machine learning and big data to predict the future of intelligence. We take inspiration from the many projects in the field that are already making excellent progress and explore the possibility of creating a large repository of knowledge which could be used to build an AI machine capable of self-learning and thus be forever evolving. We explore the question of what the future might hold for artificial intelligence and machine learning, and whether it could one day replace us.

INDEX TERMS: Artificial Intelligence, Machine Learning, AL, ML, Application, Technology

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#### INTRODUCTION

Artificial Intelligence has the capability of performing tasks which require human intelligence. It is a subset of Artificial Intelligence that deals with developing intelligence equivalent to that of human being. AI is a relatively new concept and started developing during 20th century. It has evolved over time, and it was earlier associated with mechanical and electronic robots. It is widely believed that the intelligence of machine might one day develop to a point that machines can match the intellect and thinking skills of humans. It is now possible to apply AI technology to solve many of the present-day challenges. The rapid progress in Artificial Intelligence and its technology is predicted to boost the AI ecosystem of the future. Technological progress and developments of AI is increasing in scale, and the scope of applications of AI is changing day by day. This has given rise to an ecosystem that consists of an increasing number of AI developers, researchers, investors, and companies. As the global market for AI is rapidly expanding, a number of AI companies are being established to service a growing demand for AI services. The future of AI is predicted to be highly competitive with a wide range of different business, technology, and product options.

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Artificial Intelligence is an application of Machine Learning that involves the process of simulating human-like intelligent behavior. It allows machines to be capable of learning, adapting, acting, responding, and reasoning in a way that is like that of a human. This includes understanding the behavior of other people and adapting its actions and the way it acts to match the situation. A.I. also allows machines to act like human beings. So, it is also referred to as Artificial Human Intelligence. The process of learning and making intelligent actions is done through Machine Learning. In simple terms, it means learning without being taught. A.I.

focuses on training the programs to perform certain actions.

In a digital world of information explosion, all the organizations are collecting a lot of data, and they are looking for ways to turn this information into insights. Machine learning is one such way, where it uses algorithms and computers to build models. There are several models in ML. Some of them are good for classification and regression problems, while others work better in anomaly detection and detection of change. It is a technique where the computational algorithms use different data sets and are fed to model building and analysis. Machine Learning Models are used to extract information from data which is stored in various formats. In the previous decade, the ML models were just a pipe dream. Even the biggest organizations could barely rely on them. But due to the surge in demand, companies like Google, Netflix and others can use ML models to enhance their business and products. With the continuous growth in the amount of data, it becomes difficult to analyze them in real-time. ML models reduce the human effort, and hence, they are extremely helpful in analyzing massive data to provide fast and accurate decisions.

#### **METHODOLOGY**

Using a set of questions posed by leading industry experts, this research examines AI technology's future. The panel consists of an accomplished group of innovators in the field of AI and Machine Learning. They represent academic, business, and government sectors. The questions cover a broad set of important industry-related issues with answers provided from experts that have an interest in the topic. The research was conducted over the course of two years. Panelists were assigned a list of questions to research and provide responses. The research consisted of multiple rounds of interviews and consultations, discussions, and other indepth means to reach the conclusion drawn in this report.

AI research is evolving. In fact, AI is undergoing two distinct paradigms: ML and AI. ML is the subset of AI, and, at present, ML is in its beginning stages, but the adoption of AI is inevitable. AI is a long-term investment that takes place over an extended period of the time, and by all means, AI will be able to do everything ML can do. There are certain applications where AI may not be beneficial, and this fact will make ML the 'killer application' in the coming years. The main aim of this study is to take a look at the future prospects of machine learning and artificial intelligence.

The two terms AI and ML are basically synonymous. AI can be defined as a field of research, which is a technique used to achieve human-like performance in certain tasks. A human is considered to be one that performs these tasks with a high degree of skill and intelligence, which will be in vain, without using any machine. AI-enabled algorithms can be broadly classified into two categories narrow AI and general AI. Narrow AI is the most common type of AI technology, and it is mostly used for the recognition of patterns or for simple tasks like voice recognition, web searches, image classification, and translation. General AI, on the other hand, is capable of handling complex tasks which include planning, reasoning, and decision-making. It has proven to be one of the biggest challenges for AI, as the goal is to design a machine with a brain similar to that of a human.

The future of AI and machine learning is promising, but it will be dependent on several factors, including research and development progress, adoption of technology in various applications, and public acceptance. The future of AI is highly dependent on the way people will work in the next few years. If we are successful in designing machines and robots, then the impact will be seen in areas like medical care, production, transportation, etc. Soon, the biggest challenge for AI will be to be able to deal with the massive volumes of data available through the internet. An industry expert explained that the field of AI is in its beginning stages. ML has come a long way. AI is already a practical reality, as it is used in various applications. AI is mostly deployed in computer vision, which has led to many important advances in the field of automation and human assistance. However, the challenge still lies ahead of us, as creating intelligent machines is a complex process, which involves huge investment in research and development. The development of AI and machine learning is highly dependent on data. There is a strong possibility of AI being offered as a cloud-based service, like machine learning-as-a-service, which is already used in various domains like data science, speech recognition, and customer service. The major trend right now is the quantified self-movement, which aims to bring the data scientist and his/her team into the living room.

#### **APPLICATIONS**

The application of federated ML will be wideranging within the financial services and telecom sectors as well as multiple other fields. Here are some potential applications:

#### LOAN RISK PREDICTION

Federated ML will help financial institutions to understand what it means to be safe and sound while at the same time reducing bad debts, helping to lower fees, and increasing profits.

AUTHOR ET AL.: TITLE 3

#### **TELECOM**

Federated ML will help to increase network capacity by predicting and blocking congestion.

### EFFICIENCY AND THE NEXT GENERATION OF CLOUD-BASED SOLUTIONS

Federated ML will play an important role in the efficiency of the next generation of cloud-based solutions. Federated ML will help to eliminate the need for serverless apps. In serverless, a function is called to perform a specific task, like accessing data, processing data, or calling a third-party API. These functions are deployed to the cloud and are therefore exposed to security risks. Serverless functions should only be used as a last resort, so when federated ML is adopted, a single model can be shared across multiple devices to predict more accurately and with less risk. This reduces the total cost of ownership, as only the resources required for model training are deployed.

## THE NEXT GENERATION OF SERVERLESS TECHNOLOGY IN CONTEXT OF FEDERATED ML

The term serverless was initially coined by a technology consultancy called Datawind. It was used as a new type of cloud-based solution that would run functions at the edge. In contrast to traditional servers, the cloud can scale down and save money when demand is low. More specifically, a serverless system provides computing functions on demand with no upfront cost. The result is you can avoid wasting money by paying only for the resources you need. This is what we want for financial services, where spending money when you don't need to is expensive. Serverless applications are built to run in the cloud, but without a server. This removes the risk of spending money before it is needed. There are, however, a few downsides.

One issue is security. Because there are no servers, there are fewer points of control. Furthermore, a serverless architecture lacks the security, trust, and auditability of traditional server-based solutions. More specifically, a serverless system provides computing functions on demand with no upfront cost. The result is you can avoid wasting money by paying only for the resources you need. This is what we want for financial services, where spending money when you don't need to is expensive. The introduction of federated ML means the next generation of serverless technology will involve more than just serverless architecture. It will involve federated ML in order to deliver more personalized customer experiences. Data sharing in a federated structure means customer data will stay on the device but be accessed by multiple AI-powered devices. As a result, it's easier to maintain and understand which user data is being used. The result is less friction in the customer experience and less errors.

## PROMISING AI APPLICATIONS WITHIN THE HEALTH SECTOR

In healthcare, AI offers various applications, ranging from helping nurses and doctors diagnose patients to assisting with remote patient monitoring. With the application of AI technology, hospitals in Israel and China can track patients' condition and alert doctors when any abnormalities appear. An AI system that analyzed the data could automatically alert healthcare workers that patients are in distress and take appropriate actions to help. The healthcare industry faces challenges in dealing with the onslaught of Covid-19. As health care professionals are being redeployed to deal with the pandemic, the AI technology, if applied correctly, can help them save lives and manage the care of patients in remote areas. Healthcare is evolving from being solely reactive to proactive and preventive, and AI can play a part in making this happen.

#### HYPER-PERSONALIZATION WITHIN E-COMMERCE

Customers today receive a huge amount of choice from vendors in the digital space, where every product is unique. The rise of AI and ML in the e-commerce sector allows brands to continue to provide individualized offerings for consumers, with the ability to be more thoughtful and strategic. In the next year, we'll see hyper-personalization through e-commerce as vendors look to move beyond product recommendations and personalization to include more customized interactions with consumers, as they've already done in advertising. Brands like Nike, Sephora, Adidas, and Amazon are already taking that step. For consumers, it will be a lot easier to buy products online because of the algorithmic approach. The more information retailers gather, the more insights they can create to show a customer relevant and customized experience. Hyper-personalization will drive e-commerce adoption among new and existing customers, and drive growth across most market segments.

#### **E-COMMERCE AUTOMATION**

E-commerce adoption, specifically through retailers, has grown exponentially in the past few years and shows no sign of slowing down. It's estimated that 60 percent of online retail transactions are influenced by automation. For online retail, automation is defined as an approach that relies on data-driven decision-making by software algorithms to make decisions about and execute strategies related to customers, including those that impact the customer experience, on behalf of retailers and brands. In a new age of automation, vendors will continue to rely on AI and ML to make data-driven decisions to create a unique and personalized customer experience. Retailers will continue to automate the experience from customer data analytics to the fulfilment of

e-commerce orders through predictive algorithms. This growing trend will fuel hyper-personalization.

#### **GROWTH OF E-COMMERCE SALES**

Growth of e-commerce sales that is online shopping growth in each period is expected to be a little more stable, but it will still grow strongly. E-commerce's share of retail sales worldwide is projected to grow to around 17%. Retail industry players will leverage AI and ML for e-commerce growth in the coming year. For example, retail giant, Walmart, plans to have a machine learning assistant on mobile devices by 2021, and will be able to identify customers who are most likely to purchase a given product, or recommend products most likely to suit their tastes.

#### AI AND ML INNOVATIONS WITH NLG

The AI and ML solutions and innovations that will have great significance in the global economy. AI/ML Applications that take advantage of NLP - Automated text generation that improves productivity by allowing users to ask natural language questions and get an answer in response. AI/ML Applications that utilize a knowledge base of data that can be updated in realtime. This can help users to automate a business process and improve the customer experience. Natural Language Generation using machine learning/AI. Semi-supervised and Self-supervised AI with learning-based text generation. Augmented reality in conjunction with AI and ML.

#### THE FUTURE OF AI

Automated speech, text, and language understanding. AI and ML Automated Speech Generation and Analysis Machine learning and Artificial Intelligence have been part of every aspect of society, allowing software to mimic human thought and the human mind to function like software. Speech synthesis, a product of AI and ML technologies, has been used to make computer interfaces more accessible and user friendly. An example of this would be the voice-only interface in the iPhone. We can use speech, text and language analysis to help us access and analyze unstructured data, the most common and most important kind of data we deal with. There are speech processing, natural language processing, and dialogue processing systems. Speech processing uses the combination of computers, speech, and language. Natural language processing (NLP) is all about understanding natural language and then converting it into structured data.

#### **EXAMPLES**

Computerized voice a computer system with an assistant that is supposed to sound human-like. Natural

language processor (NLP) can understand the context of the words that are used. Speech and natural language analysis are used together with speech recognition to understand the sentence or message. Natural language and speech synthesis are often combined in a single product. Natural speech recognition allows us to generate natural speech in almost any context. Speech synthesis can be used to generate text on a small device such as the iPhone. The combination of speech synthesis and speech recognition allows us to ask questions, play games, get directions, etc.

Natural language processing (NLP) is study of how human language works and how computers can best understand and work with natural language. The most well-known task of natural language processing is the processing of natural language into a digital document, or a computer program. The ability to create a program in human natural language allows for the creation of software that is not only more accessible but also more powerful. The combination of speech synthesis and natural language processing allows us to generate text on a small device such as the iPhone.

Natural language generation (NLG) uses Artificial intelligence (AI), Machine Learning (ML), Semantic Technology, and Natural Language Processing (NLP) to help generate text that mimics the style of human natural language. The most well-known task of NLG is converting spoken words into text. Artificial speech generation requires the identification of syntactic or semantic structure that is inherent to the language and can be mapped to a data structure, usually a sequence of text. It's also used for translation or any other task involving generation of new text from a pre-existing one, or for automatic speech recognition. It is also used in combination with natural language understanding. The combination of speech generation and natural language understanding allows us to ask questions, play games, get directions, etc.

#### Some Predictions about Machine Learning

The following predictions are based on the author's extensive research into ML. Data-Driven Processes will supersede the old school. Instead of making decisions based on hard rules (ex. If you exceed the speed limit, then you will be fined.), ML techniques will replace these decisions with data. The use of ML will take on a wide variety of forms including real-time decision making, anomaly detection, recommendation engine and optimization. The use of ML will also become more common in many business areas, including supply-chain management, HR, financial services, and real-time analytics.

## THE ADVANCED AI AND ML AFFECT CYBER SECURITY

AUTHOR ET AL.: TITLE 5

A very important research area in AI & ML is cybersecurity. The security-centric AI & ML is driven by the concept that intelligence is a two-way process. On one side intelligence uses data and ML algorithms to perform tasks, and on the other side it reacts to the data and provides feedback to the intelligence. In this scenario, every single action a user performs on the device can be used by the ML algorithm to improve its performance, and therefore the user should be rewarded for each action.

While creating security-centric applications for consumers, data security is of prime importance. Consumers have started demanding the applications they use to be not only more usable but also more secure. Consumers are now more aware of privacy and data protection issues and are demanding more from the companies they deal with. As a response to consumer demands, a good data security becomes one of the most important things for companies to look out for. This makes cyber security and security-centric AI & ML more important in the long run. This means the AI and ML driven cyber security systems are the future of cyber-security applications. So, the data security issues in ML-based cyber security will continue to become one of the most important areas of AI and ML research.

#### AI AND ML IN CORE INDUSTRY SECTORS

The world of Artificial Intelligence has become synonymous with Artificial Intelligence (AI). It is also a buzzword that has been associated with every product, service, and application that relies on AI. The fact is artificial intelligence (AI) has been around for decades but has never become mainstream. This has led some to argue that AI technology is hype, not reality. But as we move forward and into the next decade, AI is poised to be a core technology that will help address the world's biggest problems. The following are some of the core industry sectors that have AI- and Machine Learning (ML) at the core of their products and solutions

#### IN MANUFACTURING

In manufacturing, as the manufacturing robots are continuously improving, AI-driven solutions can make robots more capable by adding more capabilities to them. This includes using deep learning and machine learning to automate production and improve the efficiency of the manufacturing process.

#### IN SUPPLY CHAIN MANAGEMENT

In the supply-chain domain, the supply-chain management technology is set to transform from static logistics systems to dynamic systems. Supply-chain management technology is the backbone of logistics processes.

#### IN MANUFACTURING AUTOMATION

It can also be used to automate manufacturing processes and equipment that are too complex for traditional automation. By using deep learning, it will provide a solution to automate the manufacturing process.

#### IN FINANCIAL SERVICES

In the financial domain, AI algorithms are being used to automate the most complex aspects of the trading process. For instance, in the stock market, AI algorithms have been developed that work 24/7 to perform sophisticated mathematical computations, thereby automating stock trading.

#### IN RETAIL ANALYTICS

With retail analytics, AI will be used to develop an effective consumer analytics capability to help retailers improve their offerings and customer experience.

## ARTIFICIAL INTELLIGENCE & AUTONOMOUS VEHICLES

Artificial Intelligence and autonomous driving are going to be important components of a transportation system. These technologies are becoming an integral part of the automobile industry today. The applications of these technologies are expanding beyond driving to include other parts of the system that work as components of a transportation ecosystem. The integration of AI technologies is essential to realize the benefits of this advanced technology. These technologies will ensure seamless interaction with people, traffic infrastructure, and other vehicles. It will allow seamless and safe coordination of vehicles. AI can identify and communicate with vehicles and the road, understand road and weather conditions, predict events, and optimize logistics processes for the entire system.

AI technology is a core part of the healthcare delivery system. The technology can improve the efficiency of the healthcare delivery system by helping practitioners to be more effective and efficient. Healthcare practitioners can now use AI to perform various tasks, such as interpreting scans, providing diagnoses, assisting in surgery, diagnosing diseases, monitoring the system's performance and response to unexpected events. With AI technology, systems will be able to work smarter and faster to improve outcomes. This also enables improved productivity, enhanced efficiency, and high quality of service. It is important to understand that the healthcare delivery system has many complex processes. The introduction of AI technology would reduce these complexities and augment the current work environment, enabling practitioners to operate more efficiently.

#### **ROBOTICS**

Robotics is an essential part of the industrial system. AI is a core component of industrial robotics. AI will help in improving the effectiveness and efficiency of industrial robots, which in turn will help to transform manufacturing systems to a new scale. There are numerous applications that make use of industrial robots. They are useful for tasks such as moving, assembling, welding, cutting, painting, grinding, and handling. This will lead to considerable cost savings and improved productivity.

#### THE INDUSTRIAL INTERNET OF THINGS (IIOT)

The Internet of Things has become a core component of many industrial processes. These include industrial robots, drones, and autonomous vehicles. AI technology will transform the data generated by these devices into machine-readable signals. This will help to process information more efficiently. This is an important component of the IIoT as it will help the industry in collecting real-time data to better understand machine performance and performance in comparison with humans. AI can also be used to improve manufacturing systems to produce components more efficiently and with fewer failures. The application of AI in the industrial and smart manufacturing environments will make the manufacturing process simpler, more effective, and more efficient. It will also lead to a cost-effective manufacturing environment. The integration of IIoT with AI will allow companies to identify and act on key information in real-time.

#### **3D PRINTING**

AI is the core component of 3D Printing. It helps in creating complex shapes of 3D structures in 3D models. 3D printing is one of the fastest growing technologies. Many companies are now beginning to use 3D printing technologies to create products that need design and quality. Many of these require a number of sophisticated design processes and high-quality parts. 3D printing has the potential to increase quality, reduce manufacturing time, reduce logistics, and provide customized products. 3D printing is being used in manufacturing today to create new products that were not possible before. This technology has been identified as a technology that will change the way products are designed and manufactured.

#### **SMART HOME**

Smart homes represent the ultimate integration of technology into a person's daily life. This technology

has been seen to help people live in more comfort, convenience, and safety. It also enables people to save on energy, maintenance, and travel. Smart homes have various application across industries. They are critical to manufacturing industry. Manufacturers are looking for new ways to make their processes more efficient, more effective, and more convenient. There is tremendous use of AI technologies to make smart homes smarter, more affordable, and more accessible. AI technology enables smart homes to be connected to the internet and be able to transmit data to the service provider. This provides consumers with the ability to control their homes using their smartphones.

IoT is an integral part of the industrial and smart manufacturing environments. Internet of Things will allow manufacturers to track and collect real-time data about their manufacturing processes. It will lead to improved productivity and lower costs. Smart factories are being built today. They are expected to provide a high level of automation and efficiency. The integration of internet of things and artificial intelligence will further enhance the operational efficiency and productivity of these factories. They will enable companies to generate real-time data to better understand and improve manufacturing systems, processes, and products. This will result in improved efficiency and cost reduction. Machine Learning Machine Learning is one of the core components of AI. The underlying mechanism of the technology is the same as human learning. Machine learning techniques create an algorithm that is capable of making intelligent decisions. In other words, AI is more about the way the algorithm makes decisions, and less about what decisions are made.

Machine Learning is the basic mechanism that drives many AI applications. AI technology is the mechanism that allows the software to learn to make correct decisions in a dynamic, changing, and competitive environment. ML technology is responsible for a wide variety of applications that make use of machine learning to improve the performance of the system. Examples of these applications include object recognition, image classification, speech recognition, information retrieval, and natural-language processing.

#### **HEALTHCARE**

ML will play an integral role in healthcare. It will help to develop a digital healthcare ecosystem. This ecosystem will improve patient care and facilitate information exchange between health providers. The technology will also provide new applications for clinical research. This will allow health providers to better understand diseases and develop better treatments. Machine learning can be used to analyze medical images, videos, and data. The technology can be used to identify symptoms, help with diagnostics, and track disease.

AUTHOR ET AL.: TITLE 7

#### **BANKING**

In banking and finance, the use of ML is transforming the way people interact with the system. This technology is being used to analyze client information. In the past, the system relied on business process management. This was limited to manual analysis of data, which created delays. With ML, the technology automates data analysis, and this makes it possible for organizations to process customer information in real time. This technology can help in providing value to the business and customer. It helps in making business decisions in real time, which is critical for many businesses.

#### INDUSTRIAL AND MANUFACTURING

Machine Learning will play a critical role in the automation of industrial processes. This technology will improve the accuracy of manufacturing processes. It can improve the performance of systems, machines, processes, and products. In the past, AI technology was used in a factory to teach the machine how to work in the factory. It was designed for a single task and could only handle a small number of scenarios. As the technology has advanced, the use of AI in manufacturing has increased to assist in making decisions in real time. This provides systems with a higher level of intelligence.

#### SUPPLY CHAIN MANAGEMENT

Machine learning will be a critical component of supply chain management. The technology will assist in the collection, processing, and analysis of supply chain information. This data helps to build the supply chain. The data collected can be used to improve business processes, monitor supply chain performance, determine new demands,

#### **CONCLUSION**

The use of AI in almost all business areas will continue to expand and with time reach a new phase where machines, with the help of ML techniques, will do work humans do best. And like humans, ML systems will learn on the job, continuously improve their performance, and get more intelligent, which will also have a positive effect on their performance. It's not only the technological advancements that fuel the growth of the ML market, but also the growth of the Internet of Things and the advent of AI as a service (Machine Learning-as-a-Service) the increasing use of the cloud will also fuel the demand for ML solutions. Machine

Learning is becoming a key strategy for creating AI-enabled solutions. Machine Learning can find patterns, classifying objects, and extracting meaning from existing data. The possibilities of ML are infinite, and its future can only be anticipated.

#### **ACKNOWLEDGMENT**

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#### **REFERENCES**

- Sawant, S. S., Manoharan, P., & Loganathan, A. (2021). Band selection strategies for hyperspectral image classification based on machine learning and artificial intelligent techniques-Survey. Arabian Journal of Geosciences, 14(7), 1-10.
- [2] Kühl, N., Goutier, M., Hirt, R., & Satzger, G. (2020). Machine learning in artificial intelligence: Towards a common understanding. arXiv preprint arXiv:2004.04686.
- [3] Schiff, D., & Borenstein, J. (2019). How should clinicians communicate with patients about the roles of artificially intelligent team members? AMA Journal of Ethics, 21(2), 138-145.
- [4] Yigitcanlar, T., Butler, L., Windle, E., Desouza, K. C., Mehmood, R., & Corchado, J. M. (2020). Can building artificially intelligent cities safeguard humanity from natural disasters, pandemics, and other catastrophes? An urban scholar's perspective. Sensors, 20(10), 2988.
- [5] Kellogg, K. C., Lebovitz, S., Lee, K. W., & Watkins, E. A. (2020). Artificially Intelligent Futures: Technology, the Changing Nature of Work, and Organizing. In Academy of Management Proceedings (Vol. 2020, No. 1, p. 19930). Briarcliff Manor, NY 10510: Academy of Management.
- [6] Rigby, M. J. (2019). Ethical dimensions of using artificial intelligence in health care. AMA Journal of Ethics, 21(2), 121-124.
- [7] Goksel, N., & Bozkurt, A. (2019). Artificial intelligence in education: Current insights and future perspectives. In Handbook of Research on Learning in the Age of Transhumanism (pp. 224-236). IGI Global.
- [8] Al Gharbi, S., Ahmed, M., & ElKatatny, S. (2018, November). Use metaheuristics to improve the quality of drilling real-time data for advance artificial intelligent and machine learning modeling. case study: Cleanse hook-load real-time data. In Abu Dhabi International Petroleum Exhibition & Conference.
- [9] Toplu, A., & Liu, H. (2021, December). Designing a Deceptive Comment Detection Platform with a Rule-based Artificial Intelligent Architecture. In 2021 IEEE.
- [10] Shabbir, J., & Anwer, T. (2018). Artificial intelligence and its role in near future. arXiv preprint arXiv:1804.01396.

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