Artificial Intelligence in science and everyday life, its application and development prospects

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Abstract— **The main purpose of the article is to determine the impact of artificial intelligence on society and industry. What role the development of this technology will play on the economy and society in the future. The question should be asked: how will artificial intelligence affect society and what will be the effects of its increasingly widespread use and whether it poses any threats. The main methods used in the article are the analysis of scientific literature, synthesis of collected facts and knowledge obtained from official data, e.g., documentation of programming languages. The main conclusion from the paper is the growing importance of AI for society and its development, which will affect into various areas of life.**

Keywords—***Artificial Intelligence application, Rules of Artificial Intelligence, Artificial Intelligence programming, AI in business, AI in law, AI in Politics.***

I. INTRODUCTION

Nowadays, new technologies are very important in society development. New technologies bring faster results in industry, make life easier and brings profit to company owners who offer those technologies. That is why this issue is very important in the modern world and citizens have to learn how to use it if they want to be a part of modern society. New technologies are used for example in finance, they provide Fintech Ecosystem, also in mobile applications, which relate to Lending, Payments and Transactions, Wealth and Investment Management, Insurance Technology (Insurtech), Regulatory Technology (Regtech), Digital Banking, Cryptocurrency and Other Finance Apps. Influential Technologies. But finance is not only sector which uses new technologies, the most developing technologies now are Artificial Intelligence (AI) and Machine Learning (ML), Blockchain, Cloud and Virtualization, and other innovations.

In this article will be focused on Artificial Intelligence as the one of most developing new technology which provides new and the biggest hope for next Industrial Revolution. That is why Artificial Intelligence will be discussed. That is why it is important to discuss the impact of artificial intelligence on various sectors and industries and on other things that surround us in everyday reality.

II. THE HISTORY, ORIGINS OF AI

The history of artificial intelligence can be dated back to the mid-20th century, when researchers began to explore the possibility of creating machines that could exhibit human-like intelligence. The origins of AI can be connected with the Dartmouth Conference in 1956, where the term "artificial intelligence" was first mentioned. (McCorduck, 2004, 1-10)

Also one of the earliest examples of AI was the development of the first computer program skilled of playing chess, which was written by Claude Shannon in 1950. (Shannon,1950, 256) The program used a brute-force approach to search through all possible moves and evaluate the resulting positions. It laid the groundwork for later advances in machine learning and decision-making. (Buchanan & Duda, 1983, 1)

In the years that followed, researchers continued to explore different approaches to AI, including rule-based systems, expert systems, and neural networks. (Buchanan & Duda, 1983, 1)

Early AI research focused on developing rule-based systems that could mimic human reasoning and decision-making. These systems relied on explicit rules and knowledge to solve problems, but they had limited flexibility and could not handle complex or uncertain situations. (Russell & Norvig, 2010, 1)

These approaches differed in their basic assumptions and methods, but all shared a common goal of creating machines that could think and reason in habits that were similar to humans. Despite many early successes, progress in AI was slower than expected, and many researchers became disillusioned with the field in the 1970s and 1980s. However, the emergence of machine learning in the 1990s and the

ASEJ - Scientific Journal of Bielsko-Biala School of Finance and Law
Volume 26, No 4 (2022), pages 8
https://doi.org/10.19192/wsfip.sj4.2022.12
Received: December 2022 Accepted: December 2022
Published: December 2022

development of powerful new computing technologies like deep learning have helped to reinvigorate the field and pave the way for new advances in AI. (Buchanan & Duda, 1983, 1-3)

In the 1980s, researchers began to explore the use of machine learning (ML) techniques to build more flexible and adaptive AI systems. ML algorithms enable machines to learn from experience and improve their performance over time, without being explicitly programmed for every possible scenario. (Alpaydin, 2010, 1-6)

Today, AI is a rapidly growing field with many different applications in areas like healthcare, finance, and transportation, and continues to be an area of active research and development. It is also useful in natural language processing, image and speech recognition, and autonomous systems. AI is also driving advancements in fields such as healthcare, finance, and transportation. (Jordan & Mitchell, 2015, 255)

Despite its many successes, AI also poses significant challenges and ethical concerns, such as job displacement, bias, and privacy. As AI technology continues to advance, it is essential to consider these issues and ensure that AI is developed and used in a responsible and ethical manner. (Bostrom & Yudkowsky, 2014, 550-555).

III. Artificial Intelligence and Machine Learning

Machine learning (ML) is a subfield of artificial intelligence (AI) that focuses on the development of algorithms and statistical models that enable computer systems to improve their performance on a specific task over time. In other words, ML is a technique for building AI systems. Machine learning uses algorithms and statistical models to enable computers to learn and make decisions based on data, without being explicitly programmed. Machine learning algorithms can identify patterns and relationships in data and use these insights to make predictions or decisions about new data. (Alpaydin, 2010, 1-6)

One of the earliest definitions of machine learning was that proposed by Arthur Samuel in 1959: "Field of study that gives computers the ability to learn without being explicitly programmed." Samuel used machine learning to develop a program that could play checkers at a novice level by learning from experience. (Samuel, 1959)

Since then, machine learning has grown into a diverse field with many different approaches and applications. Some common types of machine learning include (Sutton & Barto, 2018):

- Supervised learning, in which the machine is trained on labeled data and learns to map input data to output data. It involves training an algorithm on a labeled dataset, where the correct output for each input is known. The algorithm learns to make predictions by mapping inputs to outputs based on patterns in the data. (Goodfellow, Bengio, & Courville, 2016)
- Unsupervised learning, in which the machine is trained on unlabeled data and must identify patterns or structure in the data. It involves training an algorithm on an unlabeled dataset, where the correct output for each input is unknown. The algorithm learns to identify patterns and relationships in the data on its own, without being told what to look for. (Alpaydin, 2010, 1-6)
- Reinforcement learning, in which the machine learns by interacting with an environment and receiving rewards or punishments for certain actions. It involves training an algorithm to make decisions based on feedback from the environment. The algorithm learns to maximize a reward signal by taking actions that lead to positive outcomes and avoiding actions that lead to negative outcomes. (Sutton & Barto, 2018, 1)

The connection between AI and ML is that ML is one of the main methods used to create AI systems. There are also other systems used for AI, such as rule-based systems and expert systems. ML has become the dominant approach in recent years due to its ability to learn from data and adapt to new situations. (Goodfellow, Bengio, & Courville, 2016, 407-413)

ML algorithms work by analyzing large amounts of data, identifying patterns and interactions that can be used to make predictions or decisions. These algorithms can be trained using controlled, unsupervised, or reinforcement learning techniques, depending on the specific task. (Alpaydin, 2010, 1-6)

The ultimate goal of AI is to create systems that can perform tasks that could normally require human intelligence, like language translation, image recognition, and decision-making process. There is still much work to be done in this area. AI is already being used in a wide range of applications, from speech recognition and natural language processing to autonomous vehicles and medical diagnosis. (Russell & Norvig, 2010, 1)

ML is used in a wide range of applications. As the amount of data generated by these applications continues to grow, so does the need for more advanced ML algorithms that can solve the complexity of real-world problems. (Goodfellow, Bengio, Courville, 2016).

IV. Programming Languages used to create artificial intelligence

There are several programming languages that are commonly used for developing artificial intelligence applications, each with its own strengths and weaknesses. Some of the most popular programming languages for AI include Python, R, Java, and C++. (Géron, 2019).

Most popular programming languages for AI are:

1. Python is a popular language for data analysis and machine learning, with a wide range of libraries and frameworks available for building AI applications. Python has a large and active community of developers. (Brownlee, 2021)
2. R is another popular language for data analysis and statistical modeling, with a range of packages available for machine learning and AI. R is particularly well-suited for working with large and complex data sets. It is often used in academic and research environments. (Wickham, 2016)
3. Java is a popular language for building large-scale enterprise applications and is often used in AI

applications that require high performance and scalability. Java is well-suited for building AI applications that run on large distributed systems, and is widely used in industries such as finance, healthcare, and e-commerce. (Hussain, & Khan, 2017, 67).

4. C++ is a high-performance language that is well-suited for building complex AI applications that require fast processing and low-level access to hardware. C++ is often used in AI applications that require real-time processing, such as robotics and self-driving cars. (Maddix & Weaver, 2019, 89)
5. JavaScript as a popular language for building web-based AI applications, such as chatbots and recommendation engines is also used in that area. JavaScript is well-suited for building interactive and responsive user interfaces, and is widely used in web development. (Brown, 2019, 1).

Python is used in AI and machine learning due to its simplicity, flexibility, and large selection of open-source libraries and frameworks, such as TensorFlow and PyTorch. These libraries provide pre-built algorithms and functions that can be used to build AI models quickly and efficiently. R is also popular for statistical analysis and machine learning, while Java and C++ are commonly used for developing AI applications with high performance requirements, such as in robotics and computer vision. (Chollet, 2018, 1)

In addition to these general-purpose programming languages, there are also several specialized programming languages that have been developed specifically for AI applications, such as Prolog and LISP. These languages are designed to enable developers to express complex logical rules and reasoning, which are main in many AI systems. (Nilsson, 1982, 3-4)

Overall, the choice of programming language for AI development depends on several factors, such as the specific task, the developer's expertise, and the available tools and libraries, and on the specific requirements of the project.

To understand programming differences in several popular programing languages, A simple AI programming conditioning formula, will be presented.

Python

```
# This program checks if a number is positive, negative, or zero
num = 10
if num > 0:
    print("The number is positive")
elif num < 0:
    print("The number is negative")
else:
    print("The number is zero")
```

This program checks if a number is positive, negative, or zero num = 10 if num > 0: print("The number is positive") elif num < 0: print("The number is negative") else: print("The number is zero") (https://docs.python.org).

JAVA

```
// This program checks if a number is positive, negative, or zero
int num = -5;
if (num > 0) {
    System.out.println("The number is positive");
} else if (num < 0) {
    System.out.println("The number is negative");
} else {
    System.out.println("The number is zero");
}
```

// This program checks if a number is positive, negative, or zero int num = -5; if (num > 0) { System.out.println("The number is positive"); } else if (num < 0) { System.out.println("The number is negative"); } else { System.out.println("The number is zero"); } (https://docs.oracle.coml).

C++

```
// This program checks if a number is positive, negative, or zero
#include <iostream>
using namespace std;
int main() {
    int num = 0;
    if (num > 0) {
        cout << "The number is positive" << endl;
    } else if (num < 0) {
        cout << "The number is negative" << endl;
    } else {
        cout << "The number is zero" << endl;
    }
    return 0;
}
```

// This program checks if a number is positive, negative, or zero #include <iostream> using namespace std; int main() { int num = 0; if (num > 0) { cout << "The number is positive" << endl; } else if (num < 0) { cout << "The number is negative" << endl; } else { cout << "The number is zero" << endl; } return 0; } (https://www.cplusplus.com).

In each of these programs, the AI formula used is a simple if-else statement that checks if a number is positive, negative, or zero. The, if statement checks if the value of the variable "num" is greater than 0, and if so, outputs a message that the number is positive. The elif (short for "else if") statement checks if the value of "num" is less than 0, and if so, outputs a message that the number is negative. Finally, the else statement is executed if both the, if and elif statements are false, and outputs a message that the number is zero.

The use of decision-making structures like if-else statements is essential to AI programming, as it allows programs to make choices based on certain conditions or criteria. Other types of decision-making structures commonly used in AI include switch statements, while loops, and for loops.

V. The Rules of Programming Artificial Intelligence

Programming artificial intelligence (AI) involves creating algorithms and models that can learn from data and make decisions based on this described learning. There are several

approaches to programming AI, each with its own strengths and weaknesses. Some of the most popular approaches to programming AI are:

1. Rule-based systems, that are a simple and intuitive way to program AI, where a set of if-then rules are used to make decisions based on input data. These rules are typically defined by human experts in the field and are used to make decisions based on specific criteria. While rule-based systems are easy to understand and can be effective in some applications, they are limited in their ability to handle complex or ambiguous data. (Russell & Norvig, 2010, 1).
2. Machine learning, which was discussed in detail above, is a more sophisticated approach to programming AI, where algorithms are trained on large amounts of data to learn patterns and make predictions. There are several types of machines learning algorithms, including supervised learning, unsupervised learning, and reinforcement learning, each with its own advantages and disadvantages. (Alpaydin, 2010, 1-6).
3. Neural networks are a type of machine learning algorithm that are inspired by the structure of the human brain. Neural networks are made up of interconnected nodes or "neurons" and trained on data to learn behaviors and make predictions. Neural networks are particularly effective in applications such as image recognition and natural language processing, where multifaceted patterns must be identified and analyzed. (Goodfellow, Bengio & Courville, 2016, 407-413).
4. Genetic algorithms are a type of evolutionary algorithm that are inspired by the process of natural selection. In genetic algorithms, a population of solutions is evolved over time by selecting the fittest individuals and recombining their characteristics to create new solutions. Genetic algorithms are often used in optimization problems, where the goal is to find the best possible solution of certain problem. (Goldberg, 1989, 1-7).

VI. The specific programming approach in AI

Programming artificial intelligence (AI) involves designing algorithms and models that enable machines to learn from data and make decisions based on that learning. The specific programming approach used in AI development depends on the type of machine learning being employed, which can be categorized into three main types: supervised learning, unsupervised learning, and reinforcement learning. (Géron, 2019, 3-10)

Supervised learning includes training a machine learning model on labeled data, which has already been categorized with the correct answers. The machine learning algorithm uses this labeled data to learn how to make predictions or classify new, unlabeled data. In supervised learning, the program is typically written to improve a specific objective function, such as minimizing error or maximizing accuracy. (Alpaydin, 2010) Unsupervised learning, involves training a machine learning model on unlabeled data, with the target of discovering underlying patterns or structure within the data. This can be used for tasks such as grouping and dimensionality reduction. (Géron, 2019, 10-23)

Reinforcement learning involves training a machine learning model through trial and error, with the machine receiving feedback in the form of rewards or penalties based on those activity. Over time, the machine learns to make decisions that optimize its reward function. (Sutton & Barto, 2018).

VII. Practical application of artificial intelligence

As was mentioned before, artificial intelligence has a wide range of practical applications in many different industries, including healthcare, finance, transportation, and more. Some of the key applications of AI include:

Healthcare, AI is being used to develop new medicaments, analyze medical images, and help diagnose diseases. For example, machine learning algorithms have been trained to detect cancer in mammograms with high accuracy. (Wang, Peng, Lu, Bagheri & Summers, 2016, 2097).

Medical diagnosis and treatment, AI can be also used to analyze patient data, such as medical images or lab results, to make more accurate diagnoses and provide personalized treatment plans. (Topol, 2019, 44).

Finance, AI is being used to analyze financial data and make predictions about future trends, as well as to detect fraud and other financial crimes. For example, many financial institutions use AI to monitor transactions for signs of fraudulent activity. (Yeh, Su & Chen, 2016, 401). In the example of fraud detection, in the finance industry, AI can be used to notice fraud by analyzing data and identifying patterns that may indicate dishonest activity. (Budhathoki et al., 2021).

Transportation, AI is being used to improve traffic flow, optimize ways of delivery, and support self-driving cars. For example, companies like Tesla and Waymo are using AI to develop autonomous vehicles, and this trend is growing. (Zhang & Wang, 2020, 690). Autonomous vehicles, when AI is a key component in the development of self-driving cars, which use sensors and algorithms to navigate roads and make decisions in real-time. (Jain & Kumar, 2021, 29-30).

Predictive maintenance in manufacturing, where AI can be used to predict machinery failure, allowing for preventative maintenance to be scheduled in advance. (Wang et al., 2020) Customer service, where AI is being used to develop chatbots (like Chabot GTP etc.) and other virtual assistants that can cooperate with customers and help them find the information they need. For example, many businesses use chatbots to handle customer inquiries and support requests. (Liu & Sundar, 2019, 365).

Education, where AI is being used to improve personalized learning experiences that can adapt to the needs of individual students. For example, AI-powered tutoring systems can provide feedback and support to students with their problems. (Koedinger & Corbett, 2006, 61). Also, natural language

processing, when AI can be used to understand and process human language, which has applications in fields such as customer service and virtual assistants. (Jurafsky & Martin, 2019, 1)

VIII. Risks of using artificial intelligence

Although artificial intelligence (AI) has a wide range of practical applications, it also poses potential risks and challenges, that must be addressed to ensure its safe and responsible development and deployment. Some of the risks of using AI include:

Bias and discrimination: AI systems are only as unbiased as the data they are trained on. If the data is biased or incomplete, the AI system may produce biased or discriminatory outcomes. For example, a study found that facial recognition technology had higher error rates for people with darker skin tones, which could lead to discriminatory outcomes in law enforcement and other contexts. (Buolamwini & Gebru, 2018, 77). Biases and discrimination can also appear in data and decision-making, leading to unequal treatment of certain groups. (Buolamwini & Gebru, 2018, 77). This can have significant implications in areas such as criminal justice, hiring, and for example lending money.

Job displacement: As AI and automation technologies improve, they may replace human workers in many different industries. This could lead to widespread job displacement and unemployment, particularly in low-skill and manual labor industries. (Frey & Osborne, 2017, 254). Tasks that are currently performed by humans, potentially in the future will lead to job displacement and economic disruption. (Frey & Osborne, 2017, 254).

Security and privacy. AI systems may be vulnerable to cyberattacks and data breaches, which could compromise sensitive information and cause significant harm. For example, hackers could manipulate an AI system to produce incorrect results, leading to errors or disruptions in critical systems. (Goodfellow, Bengio, & Courville, 2016, 407-413). AI systems often rely on large amounts of personal data, which can be vulnerable to cyber attacks and misappropriation. (Mittelstadt, Allo, Taddeo, Wachter & Floridi, 2016, 3-10). Additionally, AI-powered surveillance systems can raise concerns about privacy and civil liberties.

Autonomous weapons. There is growing concern about the development of autonomous weapons systems that use AI to make decisions about targeting and firing. (Scharre, 2018a, 1).

These weapons could be used to carry out attacks with minimal human oversight, raising serious ethical and legal concerns. (Scharre, 2018b, 119).

Ethical concerns. There are many ethical concerns associated with the use of AI, including issues related to transparency, accountability, and control. For example, it may be difficult to determine who is responsible if an AI system produces a harmful outcome, or to ensure that the system is being used in an ethical and responsible way. (Floridi & Cowls, 2019, 1).

These are just a few examples of the potential risks and challenges associated with the use of AI. As AI technologies continue to evolve, it will be important to address these risks and work to ensure that AI is being used in a safe, ethical, and responsible manner. To address these risks, researchers and policymakers are working to develop ethical guidelines and regulations for the development and use of AI. This includes efforts to ensure transparency and accountability in AI systems, prevent bias and discrimination, and promote the responsible use of AI. (Ethics guidelines for trustworthy AI, European Commission, 2019).

IX. Connection between AI and law

Artificial intelligence (AI) has the potential to revolutionize the practice of law, and the intersection of AI and law is an area of active research and development. AI systems can help legal professionals with a variety of tasks, such as document review, legal research, contract analysis, and even predictive analytics to aid in decision-making.

One of the primary applications of AI in law is in the area of document review. AI systems can be trained to read and analyze legal documents, such as contracts, and identify important clauses or potential areas of concern. This can help streamline the document review process and improve accuracy. Another area where AI is being used in law is in legal research. AI-powered tools can be used to analyze large volumes of legal cases and other legal documents to identify patterns or trends that might be relevant to a particular case. This can save legal professionals a significant amount of time and effort in the research process. (Dabbagh, 2020, 77).

Additionally, AI systems can also be used to help predict legal outcomes based on past cases or other data. This can help inform decision-making in legal proceedings and provide insights that might not be immediately apparent to human lawyers. (Watson & Katsh, 2017, 1-21).

However, there are also potential risks and challenges associated with the use of AI in law, such as concerns around bias, transparency, and accountability. As with any emerging technology, it is important to carefully consider the ethical and legal implications of using AI in the legal field. (Gomulkiewicz, 2019, 1017).

The relationship between artificial intelligence (AI) and the law is an area of growing interest among legal scholars and practitioners. One key area of focus is the potential impact of AI on legal decision-making and the administration of justice. As AI technology continues to advance, there are increasing concerns about the potential for AI to perpetuate or even amplify existing biases and discrimination in the legal system, as well as questions about the liability and accountability for decisions made by AI systems. One important use case for AI in the legal field is legal research and analysis. AI-based tools, such as natural language processing and machine learning algorithms, can help lawyers and legal professionals to search, analyze and interpret enormous amounts of legal data more efficiently and accurately than traditional methods. For example, tools like ROSS Intelligence and Lex Machina can assist with case law research and litigation analysis, while platforms like Ravel Law and Casetext offer advanced legal

search capabilities and analytics.

Another area where AI is being used in law is the development of AI-based legal products and services. One example is LegalZoom, which provides online legal services such as document preparation, legal advice, and attorney matching. Another example is ROSS Intelligence, which provides an AI-powered legal research assistant for lawyers.

As legal scholar Frank Pasquale notes, "machine learning and other data-intensive technologies are only as unbiased as the data they are trained on" (Pasquale 2017, 1-17). This means that if the data used to train an AI system is itself biased or discriminatory, the system will likely perpetuate those biases. This is a particularly concerning issue in the legal system, where decisions made by judges and other legal professionals can have significant and long-lasting impacts on individuals and communities.

Another important issue related to the use of AI in law is the question of liability and accountability for decisions made by AI systems. As legal scholar Ryan Calo notes, "the ultimate responsibility for decisions made using autonomous systems lies with the people who design and deploy them" (Calo 2015, 408). This raises questions about who should be held responsible for decisions made by AI systems, particularly if those decisions have negative consequences for individuals or society as a whole.

Despite these concerns, there is also significant potential for AI to improve the legal system in a number of ways. For example, AI-based tools can help to streamline legal processes and improve access to justice, particularly for underserved or marginalized communities (Leipold 2019, 347). In order to fully realize the potential of AI in the legal field, however, it will be important to address the ethical, legal, and policy questions raised by its use.

X. The connection between Artificial Intelligence and politics

Artificial intelligence has the potential to significantly impact politics and governance by improving decision-making, automating administrative tasks, and transforming the way information is gathered and analyzed. (Chadwick, 2018, 187). AI can be used to develop predictive models for election outcomes, optimize campaign strategies, and even help craft legislation. (Chadwick, 2018, 187). It can also be used to enhance government services, such as automating routine tasks like permit processing or analyzing data to identify areas where public resources can be allocated more effectively. (ncbi.nlm.nih.gov).

In addition, AI can aid in monitoring and addressing potential issues, such as identifying hate speech on social media or detecting attempts to interfere with elections. (Kaye & Mlodinow, 2018, 33–42). However, there are also potential risks associated with the use of AI in politics. For example, there are concerns about the potential for AI to be used to spread disinformation, manipulate public opinion, or even automate political propaganda. (Taddeo & Floridi, 2018, 751–752). Additionally, there are concerns about the potential for AI to reinforce existing biases and inequalities, particularly when it comes to decision-making in areas like law enforcement and criminal justice. (Angwin, Larson, Mattu & Kirchner, 2016).

Despite these risks, many experts believe that the potential benefits of AI in politics and governance outweigh the risks, provided that the technology is developed and implemented responsibly and transparently. (Cowls, Taddeo & Floridi, 2018, 489–495).

XI. The connection between artificial intelligence and healthcare

Artificial intelligence has also the potential to transform the healthcare industry by improving patient outcomes and reducing costs. Applications in healthcare can include medical imaging analysis, drug discovery, patient risk assessment, and personalized treatment recommendations.

One key area where AI is being applied in healthcare is medical imaging analysis, where deep learning algorithms are used to detect and diagnose diseases in radiology images. These algorithms can be trained on large datasets of medical images, allowing them to identify subtle patterns that may be missed by human radiologists. In addition, AI can be used to analyze electronic health records and provide patient risk assessments, allowing for early intervention and improved outcomes. (Esteva, A., Robicquet, 2019, 24-29).

Another area where AI is being used is in drug discovery. By analyzing large datasets of chemical compounds and predicting their potential therapeutic uses, AI algorithms can accelerate the drug development process and identify new treatments for diseases.

AI can also be used to personalize treatment recommendations for patients based on their individual medical history, genetics, and other factors. This can lead to improved outcomes and reduced healthcare costs by avoiding unnecessary treatments and hospitalizations. (Bredenoord, van Delden, 2017)

However, the use of AI in healthcare also raises ethical and regulatory concerns, such as privacy and security of patient data, bias in algorithmic decision-making, and accountability for clinical outcomes. These concerns need to be addressed in order to ensure that the benefits of AI in healthcare are maximized while minimizing potential risks. (Wang, Khanna & Najafi, 2019).

XII. Artificial Intelligence and money making

Artificial intelligence can be used to earn money in various ways, such as through the development and deployment of AI-based products and services, or through investments in companies that specialize in AI. For example, companies like Google, Microsoft, and Amazon have all invested heavily in AI and have generated significant revenue from AI-based products and services such as virtual assistants, image and speech recognition, and predictive analytics. (https://www.forbes.com)

One of the ways AI can generate revenue is through cost

savings, such as reducing labor costs and increasing efficiency in manufacturing and other industries. Another way is through the creation of new products and services that leverage AI technology, such as self-driving cars, personalized marketing, and fraud detection. (https://www.cnbc.com).

However, it's worth noting that the use of AI in revenue generation can also raise ethical concerns like mentioned before, particularly around issues of bias, privacy, and the potential displacement of human workers. (https://www.brookings.edu/)

XIII. THE FUTURE OF ARTIFICIAL INTELLIGENCE,

The future of artificial intelligence is a topic of much speculation and debate, as the technology is advancing rapidly, and its potential applications are vast. Some of the potential areas for future development and impact of AI include:

Advanced automation. AI is likely to continue to drive advances in automation, as it enables machines to learn and perform tasks that were previously only possible for humans. This could have significant implications for the workforce, as some jobs become obsolete, and others are transformed. (Susskind & Susskind, 2015, 3-11)

Healthcare. AI is already being used in a variety of healthcare applications, from diagnosis to personalized medicine. In the future, AI could play an even greater role in healthcare, enabling more precise diagnoses and treatments, and helping to manage patient care more efficiently. (Kohli & Ahuja, 2019, 1373).

Smart homes and cities. As the Internet of Things (IoT) continues to expand, AI is likely to play an increasingly important role in managing smart homes and cities. AI could help to optimize energy usage, improve transportation systems, and enhance public safety. (World Economic Forum, 2018)

Robotics. AI is already being used to control robots in a variety of settings, from manufacturing to space exploration. In the future, AI could enable robots to perform more complex tasks and interact with humans more effectively. (Goodfellow, Bengio, & Courville, 2016, 407-413).

Creativity. While AI has traditionally been associated with more "logical" tasks, such as data analysis and decision-making, there is growing interest in using AI for creative applications. AI-generated art, music, and literature are already being created, and there is potential for AI to assist human creators in developing new and innovative works. (Seymour & Horvitz, 2019, 76-85).

Overall, the future of AI is likely to be shaped by a complex interplay of technological advances, societal factors, and ethical considerations.

XIV. CONCLUSION

Artificial intelligence is undoubtedly a tool that already has a significant impact on society and will have an even greater impact in near future, in many industries that use technology, for example financial, production, service, medical, legal, scientific and other, that use software or applications that facilitate work in these areas, the use of artificial intelligence will grow by implementing new solutions in existing organizational and IT tools.

However, each technology is still being improved, like most products, it is a continuous process of improving, but also removing errors. It should be important, to use any tools that work for us, in careful and critical way.

Moreover, there is no doubt that AI will be used on an increasingly wider scale due to the possibility of earning money on this technology by offering convenient solutions. This will facilitate the daily life of the human community. It should be controlled to use it in fair and proper purpose, based on honest values approach important to society. Artificial intelligence is still dependent on the will of its creators and moderators, that assumption should be most important, to control technology.

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