

THE BENEFITS AND RISKS OF ARTIFICIAL INTELLIGENCE (AI)

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Annotation. The paper discusses various aspects of artificial intelligence (AI), including its definition, applications, advantages and disadvantages. AI can take various forms, from simple chatbots to complex machine learning systems for large business organizations. The paper also discusses the benefits and risks of AI, including security issues and its impact on employment. Finally, it emphasizes the need for ongoing discussion and regulation of AI at an international level.

Keywords: artificial intelligence (AI), algorithm, machine learning, AI benefits and risks.

Introduction. Artificial intelligence (AI) is a set of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand and translate spoken and written language, analyze data, make recommendations, and more. AI is built upon acquiring vast amount of data. This data can then be manipulated to determine knowledge, patterns and insights. The aim is to create and build upon all these blocks, applying the results to new and unfamiliar scenarios [1].

In this paper, it is shown that the introduction of AI into everyday life carries both benefits and risks, and how to get the most out of AI.

Main part. Artificial intelligence comes in many forms, ranging from simple tools like chatbots in customer services applications, through to complex machine learning systems for huge business organizations.

Artificial intelligence is more multifaceted than a conventional algorithm (Figure 1):

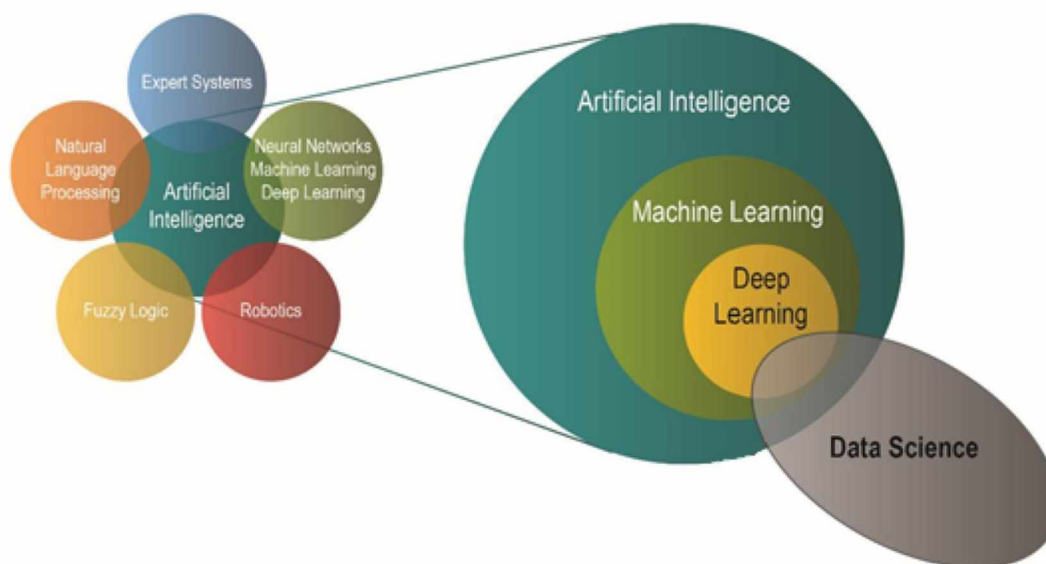


Figure 1 – Artificial Intelligence Diagram

Today, cutting-edge AI programs predominantly use a form of machine learning known as an artificial neural network (ANN). ANNs model the work of neurons in the human brain, allowing machines to «think» more like humans. ANNs allow AIs to approach more complex tasks, making them suitable for rapidly training deep learning algorithms.

In terms of applications, AI use has expanded greatly in recent years. Today, AI programs can be used to do everything from curating social media feeds to improving crop yields in agriculture. Although much attention is given to the technology's use in self-driving cars and autonomous drones, the reality is that AI systems are practically everywhere, and most people interact with them in some capacity on a day-to-day basis.

Despite its proliferation and wide range of uses, artificial intelligence is still very much an emerging technological field. Applications that are commonplace today would have been little more than academic projects 10 or 20 years ago. It is also important to note that all modern AI is categorized as narrow artificial intelligence. Even though it can be quite efficient at certain tasks, AI is still well behind humans in terms of general intelligence. On average, most experts believe that it will be at least 2060 before general artificial intelligence is achieved [3].

Deep neural networks are trained by adjusting the strength of their connections so that they can better transmit input signals through many layers to those neurons that are responsible for various processing methods (Figure 2):

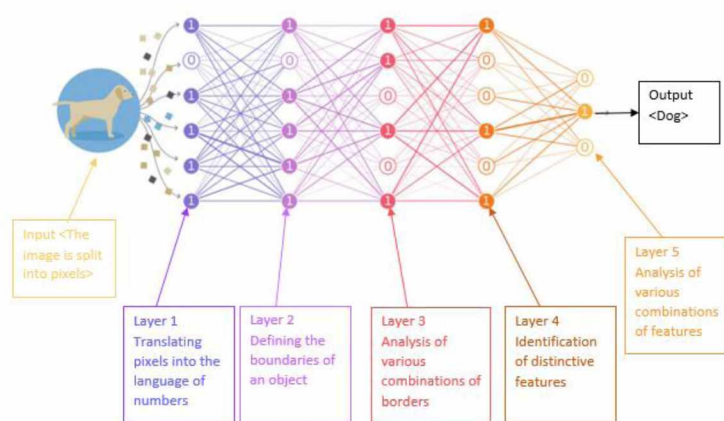


Figure 2 – Learning from experience

AI can help automate production processes, increase their efficiency and optimize costs. For example, AI can predict production indicators such as sales, inventories, and possible supply-demand ratios in the market, which will allow corporations to significantly reduce the use of labor resources. Why would a corporation need entire departments of marketers, financial consultants and managers if AI can cope with their tasks under the supervision of several highly qualified specialists?

AI can also and is already being used to analyze medical data and diagnose diseases, as well as to develop individual treatment programs that will improve the overall standard of living. The accuracy of AI diagnoses is much higher than that of professional doctors.

In the field of education, AI can help improve educational technologies by providing personalized support for students and developing personalized learning programs.

In the field of security, AI can be used to improve security systems: for example, to detect suspicious transactions and actions in the field of possible crimes and terrorist acts. But it is possible that AI will be able to get full access to surveillance cameras and personal messages on social networks [2].

The disadvantages of AI can include the need for maintenance and control by a specialist. The main risk for the society in which we live may be a significant decrease in the employment of labour resources due to the widespread introduction of AI.

And more specifically:

1) It is expensive to create.

The software is constantly updated to meet the most recent demands. Software developed five years ago is not backed any more since it is getting to be out of date.

Mechanical robots and robotized call centers without a doubt save huge sums of money. However, their creation and application are still too costly. If it were in a different way, most of them would not be working now.

2) It makes people lazy.

A robot vacuum cleaner will clean the floors at home. A driverless car will take you to the proper place. The application itself will schedule an appointment with a hairstylist and a medical specialist. Subscriptions will be automatically renewed to music and motion pictures. All that remains to do is to put money on the card.

There are all types of services that permit people not to leave their home. A courier will deliver food and clothes. A computer or a set-top box will brighten up people's everyday life.

3) Rising unemployment

5 million taxi drivers all over the world will lose their jobs due to self-driving cars. According to the RANEPА, by 2030, about 20 million workers will be replaced by robots [5].

But it should be noted that there will be job creation through AI, although AI can eliminate certain job roles, it creates new employment opportunities. It can also create completely new industries and professions. The development, maintenance and implementation of AI systems requires qualified specialists to develop, maintain and improve these systems, ranging from machine learning, data specialists and ending with ethics consultants, user experience designers, and AI programming [1].

As artificial intelligence continues to evolve, there will be a growing demand for experts in these areas providing significant employment opportunities. In addition, the introduction of AI can contribute to the creation of new jobs that use human qualities and skills such as empathy, critical thinking and problem solving skills in robotics, autonomous vehicles, medical diagnostics and personalized customer experience.

Besides, AI-based advancements can lead to the economic development, providing new opportunities to business and job creation in developing sectors. History has more than once shown that innovative technological breakthroughs can create more jobs than they replace [4].

Conclusion. Thus, the benefits of AI are huge, it is already being used in the fields of automation and optimization of production, healthcare, education, social sphere and security, etc. The introduction of AI should be accompanied by constant discussion and regulation of international legislation in this area. Undoubtedly, it has minuses and pluses, but given this situation, its benefits are much more significant than its risks. If society realizes that it is necessary to step onto a new stage of evolution, then its full-scale development and use for good purposes will begin, but you cannot just take and develop it, different specialists are needed for monitoring, improving it and putting a ceiling on its development so that AI does not get out of control and does not commit unintended actions that can harm people. People should take artificial intelligence more seriously, because it is not just a simple toy that will do your daily work for you, AI is a new stage in the development of mankind, which will allow us to achieve what we now consider impossible.

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