ARTIFICIAL INTELLIGENCE AND THE IMPORTANCE OF WOMEN IN THIS FIELD

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Abstract

This article discusses the concept of artificial intelligence, the growing importance of this field in the world today, its positive and negative aspects and the activities of young women and girls in this field.

Keywords: artificial intelligence, technology, robot, computer, STEM, modern world, science, importance of artificial intelligence.

Usually, many people think of robots as assistants who can talk like humans and do all the work instead of them. But this is a relatively broad concept. In fact, applications on your mobile device: google-translator, dictionaries, various games, etc. are also clear examples of artificial intelligence. Only their coverage is smaller and they can only help you in a certain direction. That is, depending on the type of actions you want to perform, you use the appropriate program. Artificial intelligence is a special field of informatics, which usually has capabilities related to the human mind: language understanding, teaching, discussion, problem solving. Is engaged in the creation of computer systems with decoding, translation and similar capabilities. Currently, artificial intelligence consists of algorithms and software systems designed to perform various actions, and it can handle a number of tasks that the human mind can perform[1]. In the 1990s, a new chapter was opened in the development of artificial intelligence. In 1997, an IBM computer named Deep Blue became the first computer in history to defeat world chess champion Garry Kasparov.

Another bright example of artificial intelligence is the IBM Watson supercomputer, which answers questions in a specific language based on its database. Also, programs such as Prisma, a mobile assistant that has become a constant companion of many, and a photo processor, can be noted as one of the achievements of artificial intelligence. By now, artificial intelligence has become widely popular and covers almost all aspects of our daily life[2]. For example, residents of the Chinese city of Inchuan do not need bank cards. All processes related to calculations are carried out by artificial intelligence by clarifying the image of a person's face. The debate about whether artificial intelligence is useful or harmful has been going on for almost 50 years. Experts have not yet come to a conclusion. Some worry that mass unemployment could rise as a result of their increasing popularity. Other experts and one group insists on the need to have a positive attitude towards artificial intelligence. Even among IT billionaires, there are different views. In particular, the founder of SpaceX, Elon Musk, is confident that artificial intelligence will destroy the entire civilization. According to Musk, "Artificial intelligence is the main threat to human civilization. Artificial intelligence will create massive labor problems. The reason is that robots can do everything better than us. In the pursuit of cutting-edge technology, companies can lose sight of the dangers posed by AI". Also, the head of Microsoft, Bill Gates, will touch on its damage. "A few decades from now, when robots start doing most of the work, artificial

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[1] Michael Wooldridge. A Brief History of Artificial Intelligence: What It Is, Where We Are, and Where We Are Going. Flatrion books, 2021. P-13.
[2] Clifford A. Pickover. Artificial Intelligence: An Illustrated History: From Medieval Robots to Neural Networks. Union Square and illustrated edition. October-1, 2019. P-194.

intelligence will become so powerful that it will eventually start to worry us. I agree with Elon Musk in this regard. But I don't understand why this question does not concern others says Gates. It is not surprising that by others Gates meant Mark Zuckerberg, the owner of Facebook. Because Mark has a positive attitude towards artificial intelligence: New technologies can always be created for good or evil. We will see the positive result of the wide spread of artificial intelligence in the next 5-10 years," said Elon Musk.

Today, in some countries, the use of robot-nurses, driverless vehicles, and the service of drones delivering orders has been established. Even some tasks of police officers are performed by special robots. Scientists are trying to make their appearance as human as possible. In addition, artificial intelligence has already become a constant assistant of journalists. For example, robots "working" at the Associated Press write financial reports. The use of artificial intelligence has increased the number of news stories in this publication from 300 to 4,400 each quarter. According to Swiss Re insurance company, 4.7 million people may be unemployed by 2020. It was also said that unemployment could threaten treasurers, postal workers, accountants and office workers. Artificial intelligence can easily perform their task. Although artificial intelligence has been transforming the way we live and work for some time now, most people are still quite unfamiliar with the concept. Many people think it simply means robots, which although is true for some areas, is just the tip of the iceberg as to the potential of this emerging technology[3]. Every person is likely to interact with AI on a daily basis – whether it's unlocking their phone with face recognition technology, asking their digital assistant to set a timer when cooking their evening meal or even driving them to work in a self-driving car. Below I will try to give some advantages and disadvantages of artificial intelligence.

What are the benefits of artificial intelligence?

➢ Artificial intelligence reduces human error;

➢ Use in industries dangerous to human health;

➢ A system that works 24 hours a day, 7 days a week;

➢ Speeds up the resolution process.

What are the disadvantages of artificial intelligence?

➢ It increases unemployment;

➢ People get used to laziness;

➢ Absence of feeling;

➢ Limitation of thinking.

Today, the role of young women in the field of artificial intelligence is increasing. But at the same time, there are some obstacles for young women and girls to freely engage in this field. Artificial intelligence is one of the world's fastest growing tech sectors. In 2021, the AI market size was valued at $93.5bn and is predicted to expand at a growth rate of 38.15 between 2022 and 2030. Due to the huge demand of technologies like smart home, digital assistants and self-driving vehicles, AI is believed by many to be the future of the way we live. With this demand comes the need for a highly-skilled and dedicated workforce. However, currently only 22% of AI employees globally are female, leaving a gender and skills gap which is all too common in tech sectors. The gender gap in AI however is resulting in a shortage of skills and experience which will likely slow down the innovation in the market. Women make up 49.6% of the world's population and AI looks to serve everyone[4]. Without a proportionate number of female engineers, researchers and developers in the artificial intelligence space, the products and services created are not going to be truly reflective of the way we all live.

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[3] Vinod Chandra. Artifical intelligence and machine learning. PHI learning. 6 march. 2014. P-129.
[4] Aida Valls, Karina Gibert. Women and artifical intellegence (Al). Switzerland. MDPI, October 2022. P-332.

The top three reasons why women are not currently pursuing careers in AI include:

1. Early misconceptions about technology. It is widely believed that the ultimate culprit for the gender gap in technology is a lack of enthusiasm from young girls at school about a career in IT. A combination of an education gap and a negative reputation for the industry are to blame for this, as girls just aren't encouraged to pursue STEM subjects as a possible career avenue. Artificial intelligence is no different, and many girls see science and maths – two key skills in the sector – as subjects for boys.

2. Higher levels of attrition for females vs males. It has been found that women who do enter the AI industry are more likely to leave sooner than men do. The issue of retaining these women in tech is a key one as it does not help the trajectory of growing diversity in the sector. The main reasons women leave their artificial intelligence roles include a male-dominted work culture, sexual discrimination, gender pay gaps and a lack of role models in higher-level senior positions. Without a clear development path for their career, women are likely to either move to a different sector or job type or, in some cases, give up work altogether.

3. Demanding work nature. Another possible cause of women not choosing to pursue careers in data science and AI is the perceived work/life balance that comes with them. The tech industry is arguably the most fast-changing, with new technologies constantly changing the way people work on a day-to-day basis. This can definitely give a negative impression to some women as, ultimately, women are usually the caregivers for their children. Balancing a career with raising kids is no mean feat, and the idea of a job which is demanding and could result in long hours and meetings may not be very attractive to some women. However, on the flip side, technology has historically been one of the industries to embrace remote and flexible working patterns, way before the pandemic forced everyone else to.

One of the root causes of the gender gap in tech is the STEM education gender gap in children, teenagers and young adults. A huge part of this problem is the inherent perceptions that maths and science are gendered as male pursuits[5]. There have been several studies exploring the question of whether children view different subjects as gendered, and in one particular report when a group of children were asked to draw scientists girls were twice as likely to draw men. This worrying statistic demonstrates the impact of subconscious images of male mathematicians and scientists and emphasises the importance of teaching children about female STEM role models such as Grace Hopper and Ada Lovelace, who were instrumental in the creation of the tech industry. The narrative relayed to children about men and women's roles in STEM has the potential to either sustain the gender gap or close it. The percentage of female STEM graduates is considerably lower than male STEM graduates. Around 15% of engineering graduates are female, 38% for Maths, and 19% for Computer Studies. This gap in STEM education translates in the workplace to men dominating the industry with just 19% being women. Encouraging girls to study STEM subjects with the view of pursuing a career in tech is important not just for the campaign for gender equality in society, but also for the UK's competitiveness as technology pioneers. It has been estimated that by 2025, the UK will be 1.8 million short of engineers. Studies have repeatedly shown that gender stereotypes are one of the main barriers that deter girls from choosing to study maths and science. Equality in science and maths in education has the power to ultimately lead to a greater representation of women in technology in the future. Unfortunately, until issues such as early STEM education and gender bias and discrimination in the workplace are addressed, we may continue to see a skills gap in AI and data science roles. Women play a key role in changing the work done in the industry through various experiences, innovative ideas and hard work. We should never take it for granted.

In Uzbekistan, special attention is being paid to increasing the importance of young women and girls in the field of artificial intelligence. Google Cloud, together with the Kingdom of Saudi Arabia, is launching Elevate, a large-scale free training program for women in artificial intelligence technologies.

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[5] Aida Valls, Karina Gibert. Women and artifical intellegence (AI). Switzerland. MDPI, October 2022. P-247.

The main goal and mission of the program is to increase the opportunities for women to build and continue careers in artificial intelligence technologies by reducing the gender gap in STEM fields. The training is held in English, in a hybrid format, with the support of the Google Cloud team. The participants are students and graduates of higher education institutions in the fields of STEM, information management, business management and business informatics. , as well as women and girls aged 22 years and older living in developing countries.

Training is conducted in two directions:

1. Technical competencies - depending on the interests and experience of the program participant, they are divided into 3 more areas (Google Cloud Architecture, data engineering, Machine Learning and Data Processing).

2. Business competencies are a common focus for all (access to digital transformation, corporate security of the cloud environment).

Starting from the 2021-2022 academic year, 5 higher education institutions in Uzbekistan will start training in the field of "Artificial Intelligence" on the basis of a grant. In order to strengthen this sector in other sectors, the state has been allocating separate funds every year.

List of used literature:

1. Michael Wooldridge. A Brief History of Artificial Intelligence: What It Is, Where We Are, and Where We Are Going. Flatrion books, 2021. P-272.

2. Clifford A. Pickover. Artificial Intelligence: An Illustrated History: From Medieval Robots to Neural Networks. Union Square and illustrated edition. October-1, 2019. P-224.

3. Vinod Chandra. Artifical intelligence and machine learning. PHI learning. 6 march. 2014. P-449.

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