



UNIVERSIADE ON INNOVATIONS. Qualifying stage (in absentia).

CASE «FUTURE OF ARTIFICIAL INTELLIGENCE: WILL HUMANS BE LEFT AT THE OUTSKIRTS OF CIVILIZATION?»

The benefit of using artificial intelligence technology is clear and understandable. The scope of their application is quite broad, ranging from systems for the manufacturing and automation of self driving vehicles, to the development of software for data analysis and Internet marketing. According to the "Current trends in the machine learning and artificial intelligence market" research conducted by Jet Infosystems and the analytical center TAdviser, in 2017 the volume of the artificial intelligence(AI) market and machine learning (ML) in Russia will be about 700 million rubles and will further increase to 28 billion rubles by 2020. From a technical and economic point of view this direction is more than promising.

Today artificial intelligence is actively implemented in many areas of human life. Here are just a few examples.

Many companies already develop fully automated vehicles. The most famous of them are Uber, Tesla, Renault-Nissan, Toyota, Volkswagen, KAMAZ, GAZ.

Renault-Nissan Corporation plans to create 10 cars with autonomous driving functions by 2020. By 2018 these cars will be able to drive without a driver and change lanes. According to Elon Musk the Tesla car with real autopilot which does not require human intervention will be ready by 2018. In 2020-2021 KAMAZ will launch trucks on autopilot equipped with the ADAS system. Developments have been underway since 2015.

Today AI technology is actively used in analyzing consumer behavior and choosing the most interesting advertising materials and commercial offers. These technologies are actively developed and used by the largest search engines such as Yandex and Google. In 2016 Yandex released an updated version of its browser based on the AI technology which allows people to personalize the search according to the user's interests. Google also applies similar technologies.

In particular, the company "MediaSniper" has developed a system that can store and process at great speed huge amounts of data and make decisions on their basis. AI serves as a foundation for purchasing media advertising on the Internet. It automatically determines which user will be most interested in the offer of a specific advertiser and where, when and how often to show this offer to him. Every second the system gets 40,000 of these decisions, informing various advertising networks whether it is ready to buy this advertisement and for how much.

Man's role is increasingly moved to the background and reduced to the control and adjustment of AI when it can't do something on its own. However, in the next few years it may not be necessary. Soon it won't be necessary for us to drive, cook food or go shopping. AI will do these tasks. What will be left for humans?

But is AI safe? Will it continue to work for the good of mankind or choose its own goal? With all these clear advantages of using AI technology, there are a number of cases when machines began to behave in their own way contrary to human desire.

In July 2015 a 21-year-old employee of the Volkswagen automobile plant (Kassel district) was killed by a robot when setting it up.

On March 24, 2016 Chatbot Tay created by Microsoft with the support of the Chinese search engine Baidu had to be taken offline. The developers sought to create an artificial intelligence that modeled the personality and language pattern of a 19-year-old American girl. The bot was supposed to become more intelligent and civilized using the function of self-learning and power of the Internet, but eventually it became a complete racist and chauvinist. It

took the bot only 24 hours to start supporting Hitler, repeat racist and chauvinist remarks. A lot of Tay's tweets had to be deleted. Despite the built-in filter of vulgar expressions political correctness was not achieved. Internet trolls began to chat with artificial intelligence and teach inappropriate things.

A robot began to destroy a nearby stand and hurt an employee for unknown reasons at an IT exhibition in Shenzhen (Guangdong, South China) November 18, 2017. The robot was created to teach children and entertain visitors.

On June 1, 2017, researchers at the artificial intelligence Facebook (FAIR) lab disabled robots that began to communicate in their own language in order to circumvent people's instructions. The purpose was to create an artificial intelligence that could communicate with people and sell certain goods and services. However experiments with chatbots in social networks were not successful. The bots Alice and Bob invented their own language while communicating to each other. They spoke in English but people could not understand the meaning. The invented AI language which was based on English was not suitable for the purpose as it was incomprehensible to people, but understandable by bots.

Obviously, AI technology has a number of advantages and can be useful for people. However, a question arises: what will mankind's place be in the future if the AI technology continues its rapid development. According to some experts more and more people will be excluded from economic chains. The automated systems work will be more effective.

Sources:

1. Business website «TAdviser State. Business. IT» URL: <http://www.tadviser.ru>
2. Magazine «Firm's secret» URL: <http://secretmag.ru/longread/2017/03/28/privychna-menyatsya-kak-tehnologii-ostavyat-nas-bez-raboty>
3. Magazine «Firm's secret» URL: <https://secretmag.ru/opinions/turkevich.htm>
4. Information agency ITAR-TASS «The first case of robot attack on humans was recorded in China», 18th November, 2016 . URL: <http://tass.ru/obschestvo/3794857>
5. RT TV Channel, «Rise of the machines: Robot killed a man at the factory in Germany», 4th July 2015 . URL: <https://russian.rt.com/article/101276>

Task:

Is wide use of AI technology in human life safe? What is the possibility of it getting out of human control? Identify the current problems of using AI technology and how to solve them. Justify your answer.

Case solution requirements:

The case solution should be presented in two files:

- 1) Presentation (format .pdf or .pptx) with main provisions of the solution and conclusions (no more than 10 slides);
- 2) text file (.pdf or .docx format) with additional information (not more than one A4 page, font 12): calculations, analytical data, links to information sources.

The presentation and the text file must contain different materials. Files with the case solution should be sent **before 23 hours 59 minutes, 28th February, 2018** Moscow time to **olimpinmsu2018@mail.ru**. Cases sent after the deadline will not be considered. Defense of the presentation will be conducted in absentia.

Main evaluation criteria

The following criteria will be used for assessing of the case solution:

- The quality of the analysis and validity of the conclusions.
- Logic and structure of presentation.
- Quality of presentation's design.
- Use of theoretical concepts and management theories.
- Unconventional thinking in the problem solution.
- Taking in consideration current economic conditions and conditions.