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NEGATIVE ECOLOGICAL IMPACT OF ARTIFICIAL INTELLIGENCE MAINTENANCE

In the modern world, artificial intelligence (AI) is becoming an integral part of people's lives. At its core, AI is the ability of a machine or computer system to perform functions that normally require human intelligence. AI uses a variety of technologies and methods, has the ability to learn based on its own experience and data, and independently develops algorithms and models capable of understanding and processing natural language. Thus, AI offers a huge potential to improve people's lives and solve complex problems [1]. Despite the advantages, one of the main disadvantages is AI maintenance related negative impact on the environment. Firstly, most AI systems are housed in data centers, which consume vast amounts of raw materials. Furthermore, many of these raw materials are extracted using environmentally harmful methods. Another problem is that data centers produce a lot of electronic waste. Third, data centers use enormous amounts of water during construction and to cool electrical components. Finally, it requires a lot of energy, much of which comes from burning fossil fuels, which produces greenhouse gases [2].

The overall aim of the study was to investigate Belarusian students' awareness of the effect of AI maintenance on the environment, i.e. analyze their attitudes towards the invisible costs of AI maintenance.

The objectives of the research were to review and summarize the existing information on the Internet about the environmental footprint of AI maintenance and to develop a questionnaire for students the aim of which is to investigate their awareness and perception of the ecological impact of AI maintenance. On the basis of the collected data, we examined the current level of Belarusian students' awareness of the environmental impact of AI maintenance, the main sources of information (or their absence) that form students' understanding of the issue, the relationship between students' frequency of AI usage and their awareness of its negative effects on the environment, the purposes for which students use artificial intelligence and whether they are going to stop or to minimize the usage of AI after learning about its environmental impact.

Data was collected from 103 respondents. The majority (43.7%) indicated that they use AI several times a week and the significant percentage of respondents (39.8%) reported using AI on a daily basis. The polled were asked to specify the exact purpose for using artificial intelligence. As a result, 88.3% of the respondents use AI primarily for academic purposes. 33% of the interviewees reported that they use AI for entertainment purposes such as generating pictures, searching for jokes and creative ideas. 31.1% of the respondents use AI to translate texts. Regarding the awareness of AI environmental impact, a substantial proportion of the poll participants (66%) reported that they consider artificial intelligence consumes resources, but only 27.2% claim to know which exact resources are utilized. When given specific examples, 68% knew that data centers

consume electricity, and 47.6% knew that water is used for cooling. However, 24.3% of the respondents were unaware that AI requires data centers. The questionnaire also explored information where and when the survey participants learned about this issue. Social media platforms were identified as the main source of information: 51.5% of the respondents obtained knowledge about the issue from there. However, 31% of the polled encounter no information about the environmental footprint of artificial intelligence. The majority of the respondents (26.6%) have reported that they learned about the issue a few weeks ago.

The aim of one of the questions was to investigate the relationship between students' frequency of AI use and their awareness of its negative effects on the environment. 57.3% of the interviewees are receptive of the idea of reducing AI use by asking fewer trivial questions. Based on this data, we can conclude that the situation with the negative impact of artificial intelligence on the environment can be eased. The respondents were asked what they thought would increase people's awareness of the issue. 82.5% of the poll participants voted for the option of posting more information about the environmental impact of artificial intelligence on social media. Furthermore, 51.5% believe that awareness could be increased by running information sessions in schools and universities.

This data can be supplemented with information about why the negative impact of AI remains invisible to most users and who is responsible for the lack of awareness of this issue. The respondents were asked a multiple-choice question. The responses received a nearly equal number of votes. However, most of the respondents (69.9%) believe the impact of AI remains invisible because companies do not publicize it. 68.9% of the polled reported that the issue lies in the technology's intangible and virtual nature. 62.1% consider people simply do not reflect on it. Furthermore, the majority of the participants (58.3%) believe that the average AI user is only partially responsible for the environmental impact of their AI use. 19.4% of the voted suppose that primary accountability lies only with companies. However, 21.4% of the respondents think that the responsibility lies only with AI users and they need to consider all the consequences.

To conclude, the use of artificial intelligence is widespread among young people. They use it both for significant reasons and just for entertainment. The negative impact of AI use on the environment remains partially invisible to many users due to various factors: limited information available on social media and people's reckless use of technology. To tackle this problem, measures must be taken to increase public awareness. People are ready to address the issue of environmental impact of artificial intelligence maintenance.

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EFFECTIVE USE OF AI IN EDUCATION

Modern labor markets are rapidly changing and demand increasingly relevant skills every day. One of these is the ability to work with AI. According to the Pravo.by portal, in our country, machine learning and data analysis technologies are already being used in industry, agriculture, medicine, and logistics. [1]

And strangely enough, students are already actively exploring and using the capabilities of AI on their own. According to our research, more than 98% of students from various universities of the Republic of Belarus from BSEU to GrSU use AI to study, of which 51% do it on an ongoing basis.

However, the widespread use of AI has revealed a serious problem, which is that its use in training without understanding the principles of operation and limitations can worsen the quality of knowledge gained. According to the UNESCO guidelines on the use of AI in education, it is able to reproduce complex cognitive processes instead of students, and can also invent or give out deliberately false information, which often goes unnoticed due to insufficient training of students [2]. This is also confirmed by our research, where about 80% of respondents noted that they had encountered false facts from AI, while only slightly more than half of the respondents always check information from AI through third-party sources.

A good example of the elimination of illiteracy in the field of AI is the creation by the University of Helsinki together with Minnalearn of a completely free course on the basics of AI "Elements for AI" for everyone, where you can learn all the information from what AI is to the basics of Machine learning [3].

Another striking example of the introduction of AI in education is China, where compulsory lessons on the basics of working with AI have been introduced since the 1st grade last year, and the basics of self-development of AI have been introduced since the 6th grade [4].

Although a course on the use of Al already exists at our university, research conducted among universities of economic, medical, technical, and legal profiles has shown that the development and implementation of a course on the correct use of Al remains highly relevant among students and is common across all higher education institutions in our country [5].

In conclusion, the solution to the problem is the introduction into the educational process of a course on the proper use of AI in work and training, the main one taking into account existing international experience and observing ethical standards, as well as aimed at teaching students how to use AI not to get rid of complex thought processes that