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PRACTICAL APPLICATIONS OF MACHINE LEARNING.

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Annotation. *В статье анализируется практическое применение технологии машинного обучения. В нем показано применение машинного обучения в таких областях, как здравоохранение, финансы, транспорт, образование, социальные сети и СМИ. В статье также подчеркивается роль машинного обучения в создании инноваций и повышении эффективности общества. Подчеркивается, что практическое применение этой технологии важно для развития общества и создания новых возможностей. Машины эффективно диагностируют заболевания, предотвращают мошенничество, создают автоматизированные системы и разрабатывают персонализированные системы обучения.*

Key words: *Machine learning technology, practice, analysis, healthcare, finance, transportation, education, social media, media, diseases, fraud, automated systems, personalized learning systems.*

Аннотация. *В данной статье рассматривается искусственный интеллект (ИИ) как одно из центральных направлений развития технологий последних лет. Развитие технологий ИИ приводит к глубоким изменениям в различных сферах общества. Его главная цель — имитация мыслительной деятельности человека, а также помощь в решении сложных задач. Понимание роли систем ИИ в обществе, их задач и перспектив важно не только с технологической, но и с социальной, экономической и этической точки зрения.*

Ключевые слова: *Технология машинного обучения, практика, анализ, здравоохранение, финансы, транспорт, образование, социальные сети, СМИ, заболевания, мошенничество, автоматизированные системы, персонализированные системы обучения.*

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Machine Learning (ML) is a branch of artificial intelligence that allows you to learn from data and then make decisions based on this knowledge. This technology is constantly developing rapidly and is widely used in all areas of society. Machine learning is of practical importance not only in the field of scientific research, but also in everyday life. Computers and systems can learn from their own experience and solve new tasks, working efficiently and quickly, not lagging behind humans. This article discusses the most relevant applications of machine learning in practice, their impact on society and their benefits.

Machine learning in healthcare and medicine. The application of machine learning in healthcare has been rapidly developing in recent years. In medicine, significant progress has been made in the early detection and treatment of diseases using self-driving systems and automated decision-making mechanisms. For example, machine learning has made it possible to analyze radiological images (X-rays, MRIs) and detect serious diseases such as cancer. Artificial intelligence systems are also important in determining the prognosis of diseases. Also, the use of machine learning-based models in the development of individual treatment strategies, monitoring the condition of patients and choosing optimal treatment helps.

In the financial sector and banking services. The application of machine learning in the financial sector is yielding effective results in many areas. Banks and financial institutions use machine learning to analyze customer behavior, predict the likelihood of obtaining a loan, and prevent fraud. Based on credit history, user behavior, and many other data, machines can be a reliable assistant in predicting customer decisions. In addition, machine learning systems are very effective in creating investment strategies and economic analysis, with the help of which high-yield investment opportunities are identified. Fraud detection systems are also based on machine learning, which increases security in banking systems.

Transportation and automated systems. Transportation systems are becoming more efficient and safer with the help of machine learning. The main application of machine learning in the automotive industry is seen in self-driving cars. With the help of these technologies, cars learn their surroundings, help them navigate and ensure

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safety. Machine learning also plays a huge role in optimizing transportation networks. For example, by analyzing traffic processes, it is possible to reduce traffic jams on roads and optimize routes. The use of machine learning is also increasing in the automation of cargo transportation and logistics processes using drones.

In education. Machine learning is also widely used in education. Machine learning technologies are important in individualizing the teaching process and improving students' reading and learning processes. For example, new methods are being developed using machine learning to prepare personalized curricula and tests for students on online education platforms. Identifying which topics students are struggling with and providing them with an individual approach helps to improve the quality of education. Also, the use of machine learning technologies to continue the learning process with students in interactive learning systems makes a significant contribution to introducing innovations in education.

Social networks and media. The use of machine learning in the social networks and media sectors is expanding. Using content recommendation algorithms, personalized advertising and materials are provided based on the interests and behavior of users. Machine learning technologies have made it possible to detect fake news and information manipulations. It is also possible to optimize advertising and marketing strategies on social networks by analyzing user behavior. Media companies are developing new methods for presenting content and effectively communicating with the audience using machine learning.

Machine learning in other industries

Machine learning technology is also widely used in other industries. For example, in the agricultural sector, it is possible to analyze agricultural products and develop optimal agricultural practices for them. With the help of machine learning, issues such as economic analysis, natural resource management, environmental monitoring, and determining the level of air pollution are also finding effective solutions.

Machine learning technology plays an important role in various areas of society, and its practical application has directed society towards innovation and

efficiency. This technology is not only an effective tool for quickly analyzing data, but also for solving problems and creating new opportunities. From healthcare to education and finance, the application of machine learning is making a significant contribution to the development of society. In the future, the further expansion and application of machine learning technologies will allow for the creation of more efficient and optimized systems in all areas of society.

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