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INTELLIGENT AGENTS AND THEIR ROLE.

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Annotation. *The article states that intelligent agents, which are used in many fields, including robotics, medicine, finance, transportation, and e-commerce, are usually capable of self-learning and assimilating new knowledge, which increases their efficiency and adaptability. The article discusses the main types, technological foundations, applications, and future of intelligent agents.*

Key words: *Intelligent agents, decision making, artificial intelligence, algorithms, robotics, medicine, finance, transportation, and e-commerce, new knowledge, natural language processing, machine learning, optimization. technological foundations.*

Аннотация. *В статье говорится, что интеллектуальные агенты, которые используются во многих областях, включая робототехнику, медицину, финансы, транспорт и электронную коммерцию, как правило, способны к самообучению и усвоению новых знаний, что повышает их эффективность и адаптивность. В статье рассматриваются основные типы, технологические основы, области применения и будущее интеллектуальных агентов.*

Ключевые слова: *Интеллектуальные агенты, принятие решений, искусственный интеллект, алгоритмы, робототехника, медицина, финансы, транспорт и электронная коммерция, новые знания, обработка естественного языка, машинное обучение, оптимизация. технологические основы.*

Intelligent agents are complex systems that are automated and capable of interacting with their environment and making decisions to achieve their goals. These agents are typically used to solve complex problems, analyze data, and optimize processes using artificial intelligence and machine learning technologies. Intelligent

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agents play a significant role not only in scientific research but also in our daily lives. They are used in automated systems, virtual assistants, robotics, and many other areas.

Intelligent agents have several key characteristics:

Self-awareness: Intelligent agents are aware of their own state and their interactions with their environment. This feature allows them to adapt to changing conditions.

Decision-making: Agents analyze data and choose the most optimal path to achieve their goals. This process is based on artificial intelligence algorithms and machine learning techniques.

Learning ability: Intelligent agents have the ability to learn new knowledge based on their experience and apply it in future decision-making.

Multi-agent systems: Several agents can work together. This is used to create multi-agent systems, where agents communicate with each other and solve complex problems together.

The use of intelligent agents is widespread in various fields. Some of the main areas are listed below:

Robotics: Robots interact with their environment and use intelligent agents to perform tasks. For example, robots in the manufacturing process, automatic walking systems, and robots that perform frequently repeated tasks.

Virtual assistants and chatbots: Intelligent agents such as Siri, Alexa, and Google Assistant provide various services to users. These systems use natural language processing (NLP) technologies to establish natural and effective communication with humans.

Healthcare: Intelligent agents also play an important role in medicine. For example, diagnostic systems and artificial intelligence systems used to develop medical recommendations. These systems help solve medical problems by analyzing databases.

Finance and banking: In the financial sector, intelligent agents perform tasks such as analyzing credit applications, assessing financial risks, and monitoring transactions. These systems speed up and ensure the security of banking services.

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Transportation and automation: Intelligent agents are used in transportation systems, especially self-driving cars. They analyze the environment and ensure safe and efficient movement.

Along with the development of intelligent agents, their ethical problems are also emerging. Special ethical rules need to be developed so that agents do not harm human interests in the decision-making process. For example, in the development of self-driving cars, it is important to ensure their safety, honest and fair operation of control systems. Also, security issues related to the storage and use of personal data of intelligent agents require great attention.

Intelligent agents play an important role in the development of modern technologies. They are effectively used not only in scientific research, but also in everyday life. Their high-level learning and decision-making abilities make it possible to implement innovations in various fields. However, with the development of intelligent agents, it is necessary to pay special attention to ethical and security issues. They help to learn more deeply and discover new opportunities in every area of human life and activity.

Intelligent agents are systems created by the development of artificial intelligence, which play an important role not only in implementing the technological revolution, but also in improving our daily lives. Their abilities such as decision-making, learning, and adaptation help to implement innovations in various fields. However, the ethical and security aspects of these systems must always be taken into account, as they can create new problems for people and societies.

REFERENCES:

1. Рахимов Н., Эсановна Б., Примкулов О. Ахборот тизимларида мантиқий хулосалаш самарадорлигини ошириш ёндашуви //International Scientific and Practical Conference on Algorithms and Current Problems of Programming. – 2023.
2. Student M. D. et al. THE ROLE OF MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES IN TEACHING LESSONS IN MATHEMATICS AND COMPUTER SCIENCE //Экономика и социум. – 2024. – №. 2-2 (117). – С. 88-93.

3. Pant R. et al. Study of produced harmonics in DFIG powered by wind turbines over linear and nonlinear loads //E3S Web of Conferences. – EDP Sciences, 2024. – T. 563. – C. 01006.

4. Benzerara, M., Guedaoura, H., Anas, S. M., Yolchiyev, M., & Daminova, B. (2024). Advanced Strengthening of Steel Structures: Investigating GFRP Reinforcement for Floor Beams with Trapezoidal Web Openings. In *E3S Web of Conferences* (Vol. 497, p. 02013). EDP Sciences.

5. Esanovna D. B. Modern Teaching Aids and Technical Equipment in Modern Educational Institutions //International Journal of Innovative Analyses and Emerging Technology. – T. 2. – №. 6.

6. Daminova B. Algorithm of education quality assessment system in secondary special education institution (on the example of guzor industrial technical college) //International Scientific and Practical Conference on Algorithms and Current Problems of Programming. – 2023.

7. Daminova B. FORMATION OF THE MANAGEMENT STRUCTURE OF EDUCATIONAL PROCESSES IN THE HIGHER EDUCATION SYSTEM //Science and innovation. – 2023. – T. 2. – №. A6. – C. 317-325.

8. Raximov N., Primqulov O., Daminova B. Basic concepts and stages of research development on artificial intelligence //2021 International Conference on Information Science and Communications Technologies (ICISCT). – IEEE, 2021. – C. 1-4.

9. Raximov N. et al. As a mechanism that achieves the goal of decision management //2021 International Conference on Information Science and Communications Technologies (ICISCT). – IEEE, 2021. – C. 1-4.

10. Рахимов Н., Эсановна Б., Примкулов О. АХБОРОТ ТИЗИМЛАРИДА МАНТЩИЙ ХУЛОСАЛАШ САМАРАДОРЛИГИНИ ОШИРИШ ЁНДАШУВИ //International Scientific and Practical Conference on Algorithms and Current Problems of Programming.-2023.

11. Daminova B. ACTIVATION OF COGNITIVE ACTIVITY AMONG STUDENTS IN TEACHING COMPUTER SCIENCE //CENTRAL ASIAN

JOURNAL OF EDUCATION AND COMPUTER SCIENCES (CAJECS). – 2023. – Т. 2. – №. 1. – С. 68-71.

12. Daminova B. E., Oripova M. O. METHODS OF USING MODERN METHODS BY TEACHERS OF MATHEMATICS AND INFORMATION TECHNOLOGIES IN THE CLASSROOM //Экономика и социум. – 2024. – №. 2 (117)-1. – С. 256-261.

13. Тошиев А. Э., Даминова Б. Э., Тошиев А. Э. ДБЭ Формирование самаркандской региональной транспортно-логистической системы //Перспективные информационные технологии (ПИТ 2017)[Электронный ресурс]: Междунар. науч.-техн. конф. – 2017. – С. 14-16.

14. Даминова Б. Э. СОДЕРЖАНИЕ ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ И ТЕНДЕНЦИИ ЕГО ИЗМЕНЕНИЯ ПОД ВЛИЯНИЕМ НОВЫХ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИХ УСЛОВИЙ //Yosh mutaxassislar. – 2023. – Т. 1. – №. 8. – С. 72-77.

15. Даминова Б. Э. и др. ОБРАБОТКА ВИДЕОМАТЕРИАЛОВ ПРИ РАЗРАБОТКЕ ОБРАЗОВАТЕЛЬНЫХ РЕСУРСОВ //Экономика и социум. – 2024. – №. 2-2. – С. 117.

16. Daminova B. et al. Electronic textbook as a basis for innovative teaching //International Scientific and Practical Conference on Algorithms and Current Problems of Programming.-2023. – 2023.

17. Daminova B. E. et al. USING THE GOOGLE CLASSROOM WEB SERVICE AND PREPARING INTERACTIVE PRESENTATIONS //Экономика и социум. – 2024. – №. 5-1 (120). – С. 216-225.