



## ARTIFICIAL INTELLIGENCE AND INTELLIGENT SYSTEMS: SHAPING THE FUTURE

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**Abstract.** *The report examines individual issues related to the problem of using artificial intelligence. It also pays attention to the relationship between innovation and regulation of the corresponding use of artificial intelligence. Individual issues of national security and international cooperation are touched upon.*

Artificial Intelligence (AI) is a transformative technology that enables machines to simulate human intelligence, performing tasks such as learning, reasoning and decision-making [1, 2]. It is revolutionizing various sectors, from healthcare and education to industry and military operations, while raising complex ethical, legal, and societal challenges [3-5]. Furthermore, the development of AI necessitates a balance between innovation and regulation to ensure responsible and equitable use. AI's potential in advancing fields like space exploration and national security highlights the urgent need for international cooperation and ethical frameworks to guide its development and application.

AI's potential in space is recognized, but standardized frameworks at international and national levels are lacking. Efficient AI data use and regulation are necessary for future applications [6].

Many space stations started using the robots for their planet and space discoveries. Advances in artificial intelligence (AI) and robotics are transforming space operations by enabling automated systems to perform tasks efficiently and self-improve through machine learning and deep learning.

These technologies are particularly valuable in the remote and challenging environments of outer space [7].

From the outer spaces to human's grounds, where education takes a huge role in people's lives. The changing demands of education necessitate creativity and innovation, with AI playing a significant role in supporting daily educational activities, including teaching and learning. This study aims to investigate the applications of AI in education, particularly in enhancing the teaching and learning process. Using a library research method, the study analyzes AI's impact on education and how it transforms traditional learning methods.

AI can handle administrative and systemic tasks like attendance tracking, grading, test administration, and report generation, allowing teachers to focus on more meaningful aspects of education. However, AI cannot replace human creativity, character development, and moral guidance, which are essential in shaping students. Teachers remain irreplaceable in fostering critical thinking, emotional intelligence, and innovation, ensuring that human intelligence continues to lead in knowledge creation [8].



Recent technological advancements have significantly influenced home design and production, leading to the development of smart homes that enhance quality of life through advanced features. Modern homes are now multifunctional spaces used for work, entertainment, and family life. The concept of smart homes focuses on providing efficient solutions by saving energy, reducing costs, and protecting nature, ultimately creating a safer, more comfortable, and cost-effective living environment [9].

Smart homes integrate various technologies and services to enhance the quality of life, offering communication, entertainment, security, comfort, and support, particularly for the elderly and disabled. Energy-saving systems like Z-Wave and ZigBee optimize appliance functionality by reducing unnecessary operations, enabling sleep modes, and activating devices as needed. Automation features include lights that turn off when rooms are unoccupied and temperature adjustments based on occupancy. Functioning as a smaller-scale Building Management System (BMS), smart homes provide efficient home automation. Key subsystems include home entertainment, access control and monitoring, and energy management [10].

#### References

1. Al-Sharo, Y.M., Abu-Jassar, A.T., Sotnik, S., & Lyashenko, V. (2021). Neural networks as a tool for pattern recognition of fasteners. *International Journal of Engineering Trends and Technology*, 69(10), 151-160.
2. Lyashenko, V., Abu-Jassar, A.T., Yevsieiev, V., & Maksymova, S. (2023). Automated Monitoring and Visualization System in Production. *International Research Journal of Multidisciplinary Technovation*, 5(6), 9-18.
3. Abu-Jassar, A., Al-Sharo, Y., Boboyorov, S., & Lyashenko, V. (2023, December). Contrast as a Method of Image Processing in Increasing Diagnostic Efficiency When Studying Liver Fatty Tissue Levels. In *2023 2nd International Engineering Conference on Electrical, Energy, and Artificial Intelligence (EICEEAI)* (pp. 1-5). IEEE.
4. Ababneh, J., Abu-Jassar, A., Abuowaida, S., Liubchenko, V., & Lyashenko, V. (2024, December). Evaluation of Three Different Operators for Object Highlighting in Medical RGB Images: Canny, Roberts, and LoG in Independent Color Spaces. In *2024 25th International Arab Conference on Information Technology (ACIT)* (pp. 1-7). IEEE.
5. Tahseen, A.J.A., & et al.. (2023). Binarization Methods in Multimedia Systems when Recognizing License Plates of Cars. *International Journal of Academic Engineering Research (IJAER)*, 7(2), 1-9.
6. Martin, A.S., & Freeland, S. (2021). The advent of artificial intelligence in space activities: New legal challenges. *Space Policy*, 55, 101408.
7. Graham, T., Thangavel, K., & Martin, A.S. (2024). Navigating AI-lien Terrain: Legal liability for artificial intelligence in outer space. *Acta Astronautica*, 217, 197-207.
8. Yim, I.H.Y. (2024). A critical review of teaching and learning artificial intelligence (AI) literacy: Developing an intelligence-based AI literacy framework for primary school education. *Computers and Education: Artificial Intelligence*, 100319.
9. Tomaş, M., & Dostoğlu, N. (2020). Smart House with Artificial Intelligence. *Avrupa Bilim ve Teknoloji Dergisi*, 1(18), 486-493.
10. Rad, S.K., Abbasi, M.J., & Fathipour, R. (2020). Analysis and Design of Modern Houses Using Artificial Intelligence. *Journal of Artificial Intelligence in Electrical Engineering*, 9(34), 6-15.