iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** V **Month of publication:** May 2025

DOI: https://doi.org/10.22214/ijraset.2025.71220

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com

AI Dilemma in Education: Challenges, Risks and Responsibility of Inclusion

Vivek Kumar[1], Ayush Anand[2], Mansi Sharma[3], Prof J.N Baliya[4]
[1]*Research Scholar, Department of Educational Studies, Central University of Jammu*
[2]*BA B.Ed Student, Department of Educational Studies, Central University of Jammu*
[3]*BA B.Ed Student, Department of Educational Studies, Central University of Jammu*
[4]*Professor, Department of Educational Studies, Central University of Jammu*

Abstract: ***The integration of Artificial Intelligence (AI) in education presents a double-edged sword—offering transformative opportunities while simultaneously posing significant challenges and risks. This paper explores the dilemmas surrounding AI's inclusion in the Indian education system, focusing on the ethical, psychological, and pedagogical implications. While AI-powered tools offer personalized learning, real-time feedback, and innovative instructional methods, they also raise concerns about data privacy, dependency, inequality in access, and the potential erosion of critical thinking and human interaction. The study underscores the importance of responsible AI implementation that supports rather than supplants educators, and fosters cognitive and emotional development in students. By addressing these dilemmas with foresight and ethical consideration, the paper aims to guide stakeholders toward a balanced and inclusive adoption of AI in education, ensuring that technological advancement aligns with the foundational values of human-centred learning.***

Keywords: Artificial Intelligence in Education, Ethical Implications, Personalized Learning, Human-Centred Learning

I. INTRODUCTION

Artificial intelligence (AI) is one of the things that have penetrated across the spectrum of human activities in education, healthcare, industries, and daily life. While we can hardly dispute AI's importance, it is essential that it be applied intelligently with great responsibility. The term “Artificial Intelligence” was officially coined and defined by John McCarthy in 1956, at the time as “the science and engineering of making intelligent machines”. Russel and Norvig (2020) referred to it as the “the birth of artificial intelligence.”

The paper intends to discuss the challenges and risks posed by AI in context of Indian education system . AI has revolutionized the field of learning through personalized education, easy and instant access to knowledge, and innovative teaching methodology. Al-empowered educational systems can be used to analyze classroom dynamics and student engagement, which in turn helps to identify at-risk students in real-time mode, thus enabling timely intervention (Tsai et al., 2020). Nevertheless, the scope of challenges faced by educators, pupils, and all educational stakeholders continues to rise alongside these advantages.

Education cannot be an isolated venture but must remain with a collective value for society. Depending upon the method that AI is included in actual learning environments, young minds will no doubt develop the very essence of concepts, cognitively and emotionally. Since a child's assessment and judgment can hardly be trusted as that of an adult, the role of instructors or teachers becomes inevitable in assisting children to. Nonetheless, how far would AI possibly affect the development of thought processes in the next generation? As a society and global community, we must ensure that AI spins like a wheel of empowerment, not dependency, that sparks critical thinking instead of replacing human intellect. This paper will, therefore, shine a spotlight on the issues and risks AI poses to the education sector and propose methods for responsible integration into the fabric of the education system. By preparing ourselves to address these challenges, we are better able to harness the great potential of AI while keeping within the fold of the basic elements that education represents-human connection, ethical reasoning, and intellectual growth.

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com

II. REVIEW OF RELATED LITERATURE

Various scholars have explored the multifaceted implications of integrating artificial intelligence (AI) in education, especially within the Indian and global contexts. Kalyankrishnan et al. (2018) identified both cross-sectoral opportunities and sector-specific benefits of AI in India, while also noting socio-cultural challenges like caste and gender inequalities, and recommending strategic safeguards for inclusive development.

Tao, Diaz, and Guerra (2019) examined teachers' perceptions of AI and robotics in Colombian education, highlighting significant concerns regarding its practical usage. Mohammad and Watson (2019) emphasized the shift in intelligent learning environments from rigid instruction to learner-centered approaches, addressing the cultural and ethical challenges that arise. Sandhu and Gide (2020) focused on chatbot adoption in Indian higher education, suggesting its potential to enhance student engagement and communication. Huang et al. (2021) observed AI applications like adaptive learning and virtual classrooms, recognizing their positive impacts but cautioning about future challenges.

Dubey et al. (2022) provided a balanced view of AI's potential and risks in Indian education, warning against excessive dependence and highlighting issues such as data security, job loss, and value erosion. Ali et al. (2023) categorized AI-related educational challenges into five key dimensions and advocated for tailored AI tools like ChatGPT to support teaching. Jamal (2023) explored AI's transformative potential in teacher education, while urging ethical consideration of its implications. Liu and Yushcik (2024) demonstrated through experimentation that AI-enhanced personalized learning improves academic outcomes and reduces teacher workload. Ramadhani and Dravichi (2024) examined AI's effectiveness and its implementation challenges in Indian higher education, advocating for flexible, customized learning experiences.

Finally, Saxena et al. (2024) reflected on AI's expanding role across sectors, noting its growing presence in higher education alongside the risks and legislative lags it entails. Collectively, these studies underline the promise of AI in transforming education while also stressing the critical need for ethical, inclusive, and context-sensitive implementation. Recent literature further enriches the discourse on AI in education by highlighting both opportunities and challenges across varied educational contexts. Vij and Agarwal (2023) conducted a mixed-methods study that underscored infrastructural, ethical, and regulatory challenges in the Indian education system while identifying AI's potential to personalize learning and improve administration.

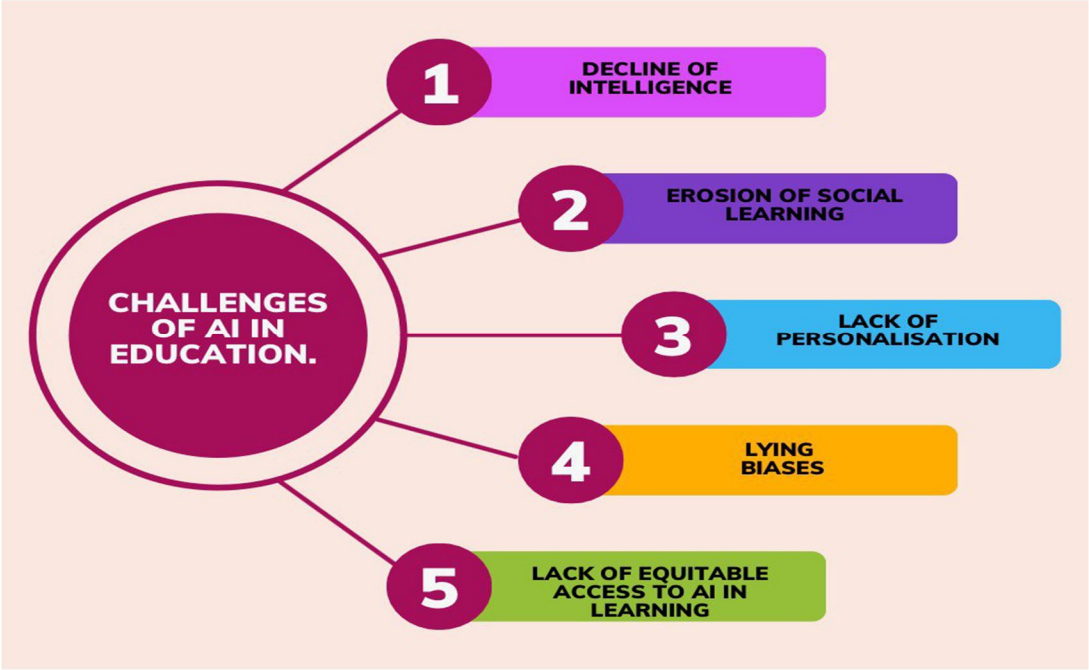
Mouta et al. (2023) examined teacher perceptions in STEAM education, revealing a positive outlook toward AI integration but noting the urgent need for teacher training and resource support. Charania et al. (2023) analyzed AI's transformative role in post-pandemic Indian education, stressing its capacity to enhance accessibility and efficiency, while warning of issues like data privacy and the digital divide. A systematic review by MIER Journal of Educational Studies, Trends & Practices (2023) focused on inclusive education in India, illustrating how AI can support personalized learning and assistive technologies but also faces hurdles such as linguistic diversity and uneven tech infrastructure. The U.S. Department of Education (2023) emphasized the need for forward-thinking policies to ensure ethical AI use, enhance equity, and promote collaboration among stakeholders to maximize AI's potential while safeguarding human-centered learning.

A. Objectives

1) To assess critically the numerous challenges posed by AI in the education system with a special focus on the effect that this has on students, teachers, and the total learning experience.
2) To proffer the measures most likely to be effective in integrating AI into education responsibly with an ethical use, human oversight, and a balanced approach to technological advancement in consideration.

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com

III. CHALLENGES IN AI IN EDUCATION



1) Decline of Intelligence: A prime challenge to AI in education is the dwindling creativity, originality, and critical thinking in students. Students are being made lazy thinkers equally by AI courageously following both written and spoken tasks without calling for heavy thinking. This has led them to the development of a lot of passive complacence in their approach to learning. Their talents remain buried, and their mental growth is choked, hampered, thus lowering their input into productivity or innovation. In addition, AI virtually snatches away curiosity, motivation, and an enjoyment of learning. What should be a life-enhancing journey is now relegated to a mechanical process whereby valuable learning is sucked dry. Instead of inquiring deeply into concepts and methodologies, students are rapidly assisted by and resort to AI's problem-solving capabilities, thus crippling their independent thought processes and problem-solving skills.

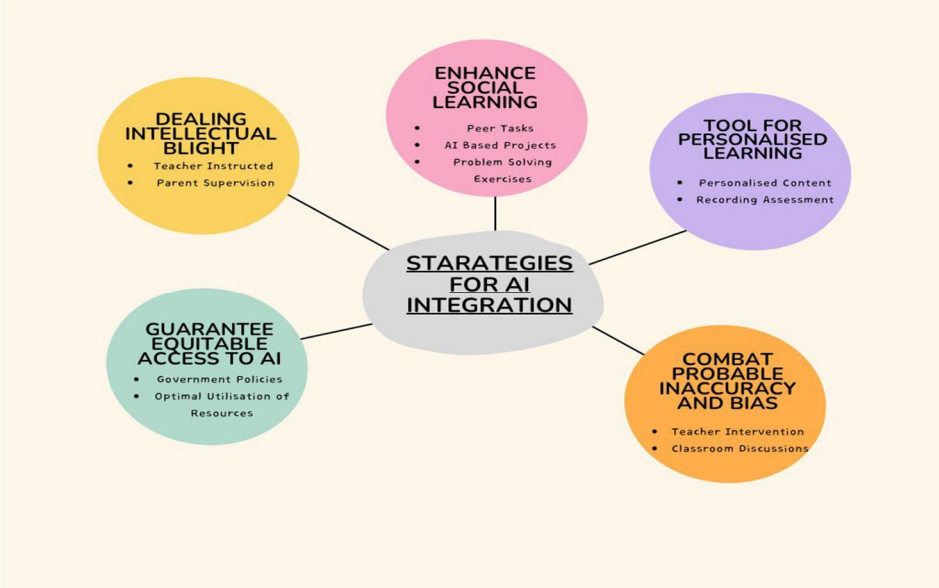
2) Erosion of Social Learning: The integration of AI into education is cutting down the amount of peer interaction among students enormously. Rather than seeking the assistance, cooperation, or guidance of peers, teachers, or other elder figures, students are fast becoming dependent on AI for the solving of their assignments. Apart from this direct hindrance to social interaction, this shift, by cutting down significantly on such peer exchanges, is threatening to disable other imperative social values such as empathy, cooperation, and mutual support from developing. Personal interaction is dwindling, and thus the sense of community and experience of shared learning diminishes, directly affecting social cohesion. Over time, such alienation results in erosion of emotional intelligence and enfeeblement of the value system within society, which plausibly plummets societal integrity and consequently social cohesion.

3) Lack of Personalization: The lack of personalization in learning comes down to ineffective, unreliable, and conventional approaches. Teachers can gauge their students through individual learning demonstrated by their knowledge or effort. On their part, AI lacks a learning curve and does not provide much specialized assistance to accommodate learners with different backgrounds. In turn, the implications of such an approach tend to push students down the road of despair owing to the chances of self-belief sinking and lowering self-esteem. Consequently, there are lots of confused learners falling behind in school. What's worse is that the absence of personalized learning impedes someone's intellectual movement and mental conditioning, which ultimately affects the overall development and performance of the injured parties in education.

4) Lying Bias: There is another aspect of lying about AI, which is not held to be enjoyed by others-the surrounding atmosphere that forms accountability for students. While there are digital platforms introducing AI, there is a disconnect with the duty to learn and teach. As such, churning out any wayward information remains questionable concerning sourcing. As such, any incorrect or misleading input could interfere with the formation of opinions or attitudes among youngsters. In addition, AI lacks an emotional domain ; thus, it may reflect bias originating from the vast amount of information on the internet. Such unfettered experience would lead a child's thought into this slippery slope of bias and distortion of views. Such unchecked exposure will, therefore, present a challenge for responsible AI integration into education, negatively impacting knowledge acquisition and critical thinking.

5) Lack Equitable Access to AI in Learning: While AI redefines education and fosters the establishment of educational opportunities, but not every person in the country's population would have access to such a technology. The Constitution does uphold equal opportunity in the right to education; however, the lack of proper skills and resources to appropriately engage with AI creates a disparity. Let's hypothesize many students and educators staying outside AI-driven learning-Great! Here come troubles in realizing the facility of equality in education. Access to AI propels forward the already existing inequalities creating the greatest challenge towards national development by leaving a large section of the population languishing in its defective form. Providing easy access to education through AI should encourage the outreach.

IV. RESPONSIBLE STRATEGIES IN AI INTEGRATION



1) Strategies toward AI Induced Intellectual Blight: AI is now a part of mainstream education that, if neglected, will slowly render teaching old-fashioned. The war or resistance against AI should be replaced with the proposition of how to engage AI responsibly with education. It should be such that it promotes growth rather than curbing it. One suggestion is that AI must be teacher-instructed rather than directly connected to students. The teachers and parents should act as gatekeepers, checking whether AI contents are in line with curricular and ethical parameters, and filter the study materials coming from AI accordingly. Also, controlled AI-based learning, responding in personalized ways to students and being controlled by teachers, might strike a balance. Again, teachers should enroll in training programs to learn to implement AI so that it could help students rather than replace them. Responsible AI integration would optimize its advantages while mitigating its disadvantageous impacts on education.

2) Strategies for Erosion of Social Learning: In terms of recovering erosion of social learning in AI, we should equip strategies encouraging student collaboration, critical thought, and originality. One of these may be executing tasks where students have to communicate with AI and collaborate with their peers to contrast their insights and views, so it is used as a dish for debate rather than simply a source of information. Teamwork, debating, and troubleshooting in class should be encouraged in ways to foster promoting students' messages and building on one another's ideas. Similarly, technology may be used to facilitate experiential learning in school-based projects, role hemispheres, and real-life problem-solving exercises in which communication skills and interaction with each other are identified. Discussions on the ethics of AI's influence may also be engendered to help build student awareness toward its limitations and the value of human interaction. There could be a steady state between integrating AI and engaging in its activities to prompt collaboration and independent thought.

3) Strategies to Deal with Lack of Personalized Learning:To defeat the AI challenge of one-size-fits-all education, we need to use AI as a personalization tool but keep the teacher within the whole curriculum development process. AI can help construct an analytical overview of students' strengths, weaknesses, and styles of learning with a view to personalized-content. Still, teachers should lead this adaptation by evaluating AI-generated insights and adjusting wherever necessary. Teachers can use AI assessment tools to monitor students' progress and adjust their teaching methods accordingly to give every student tailored attention. However, AI should provide these types of control, whereas teachers can help resolve the students' discussions, doubts, and emotional and social support that AI can't provide. By balancing AI-based recommendations with human intervention, we maintain the learning process that is flexible, relevant, and tailored to a particular student rather than over-automated. The former model allows AI to enhance education while allowing teachers to play an essential role in stimulating creativity, critical thinking, and all-encompassing development.

4) Strategies to Combat Probable Inaccuracy and Bias:To deal with the issues of AI's veracity and bias, it is essential that teachers receive a proper education in the use of AI so that their relevance remains anchored within the teaching-learning process. Letting the learning dynamics break down with spacious gaps between students and teachers in terms of AI prowess means teacher intervention becomes paramount. Teachers should filter the surfacing information being issued to the students to basically create a wall between the AI and the information. Regular teacher-discussions concerning AI limitations, fact-checking, and ethical issues necessitate the urgent development of a critical mindset in the students rather than unconditionally engaging with AI blindingly. Therefore schools must launch AI literacy programs for teachers, carefully informing teacher-students about any manifestations of biases, corrections, and pathways to refrain from biased opinions. Extra attention by the teacher to track the progress of the interaction and timely staff intervention with explanations would assure them.

5) Strategies to Guarantee Equitable Access to AI: The assurance of equitable access to AI entails a government and regional school administration working hand in hand for appropriate resource allocation to trickle down at the grassroots level. Familiarizing every child with AI, its usage, applications, and ways to use it effectively is essential, although this should occur only when conducted by properly trained persons who would have the capacity to communicate the potential up or down sides of AI, thus putting students in the way of appropriate or balanced utilization. This requires a workforce made up of well-trained educators and volunteers at the grassroots to reach students in an inclusive way, notwithstanding challenges that might keep a child from accessing AI. The government-supported stakeholders need to ensure broad access to AI resources, ensuring equality in providing modern opportunities to students who are just getting updated to fast-paced modern technological advancement. This would enable an inclusive education space where no child will have to lag behind or be overlooked due to denied access to AI resources.

V. CONCLUSION

This paper has summed up that artificial intelligence is a considerable transformative force in education, which is capable of enhancing the learning experience and streamlining teaching methodologies. AI is designed for the betterment of humanity, and it has great opportunities and great responsibilities.

The foremost challenge lies in how to ensure integration into education for empowerment rather than disruption. Bringing with it great challenges, the usage of artificial intelligence in the Indian education system has just embarked on a new journey yet, such as a decline in social learning, lack of personalized experiences, biases, and inequitable access. Henceforth, dealing with these issues promptly is crucial to getting maximum potential out of artificial intelligence without compromising any of the core values of education.

Navigating AI's influence is a task that isn't just for teachers and parents, but a wider societal issue requiring vigilance from the introduction to the regulation of the technology for generations yet to come. Contemplated interventions should be first goaled towards ensuring AI serves to enhance rather than supplant human interaction, encourages collaboration rather than dependence, and upholds ethical tenets towards better performance. Privacy must be respected, and awareness about AI usage must be encouraged from basic levels up, ensuring that students play their parts not only in successful consumerism for ruling AI tools, but growth and responsible use as well.

The position of the teacher must continue to remain key, since no AI can replace the guidelines of mentors, emotional intelligence, and moral guidance shown by teachers. Teachers shall be helped acquire the knowledge and, thereby, training in leadership-centered on the introduction of AI-based goals in the hope of serving the agenda to extend their role in classrooms, not undermine it. AI should act as a catalyst for development, not a forfeiture of traditional learning dynamics. Any form of technology has its promise and peril, but what will finally translate it into either a boon or a burden lies in human wisdom, ethical implementation, and proactive governance. In instilling this balance, we must empower AI to strengthen learning while keeping the humanistic spirit alive; in the course, build the desired future where technology can reconcile with pedagogy.

REFERENCES

[1] Abdul Sayeed, R. R., & Dravichi, A. (2024). Exploring the potential and challenges of artificial intelligence for transformation of Indian higher education. SSRN. https://doi.org/10.2139/ssrn.4997814

[2] Ali, O., Murray, P. A., Momin, M., Dwivedi, Y. K., & Malik, T. (2024). The effects of artificial intelligence applications in educational settings: Challenges and strategies. Technological Forecasting and Social Change, 199, 123076. https://doi.org/10.1016/j.techfore.2023.123076

[3] Charania, A., Prakash, A., Chavan, M., & Dey, A. (2023). Transformative impact of artificial intelligence on the Indian education system post-COVID-19. ERIC. https://files.eric.ed.gov/fulltext/EJ1434320.pdf

[4] Dubey, G., Hasan, M., & Alam, A. (2022). Artificial intelligence (AI) and Indian education system: Promising applications, potential effectiveness and challenges. Towards Excellence, 14(2), 259–269.

[5] Huang, J., Saleh, S., & Liu, Y. (2021). A review on artificial intelligence in education. Academic Journal of Interdisciplinary Studies, 10(3). https://doi.org/10.36941/ajis-2021-0095

[6] Jamal, A. (2023). The role of artificial intelligence (AI) in teacher education: Opportunities & challenges. International Journal of Research and Analytical Reviews, 10(1), 139–146.

[7] Kalyanakrishnan, S., Panicker, R. A., Natarajan, S., & Rao, S. (2018, December). Opportunities and challenges for artificial intelligence in India. In Proceedings of the 2018 AAAI/ACM Conference on AI, Ethics, and Society (pp. 164–170). https://doi.org/10.1145/3278721.3278731

[8] Liu, Z., & Yushchik, E. (2024). Exploring the prospects of using artificial intelligence in education. Cogent Education, 11(1), 2353464. https://doi.org/10.1080/2331186X.2024.2353464

[9] MIER Journal of Educational Studies, Trends & Practices. (2023). A systematic review on the applications of AI in inclusive education in India. MIER Journal of Educational Studies, Trends & Practices, 13(2), 205–219. https://www.mierjs.in/index.php/mjestp/article/view/2702

[10] Mohammed, P. S., & Watson, E. N. (2019). Towards inclusive education in the age of artificial intelligence: Perspectives, challenges, and opportunities. In S. Younie & S. Bradshaw (Eds.), Artificial intelligence and inclusive education: Speculative futures and emerging practices (pp. 17–37). Springer. https://doi.org/10.1007/978-981-13-8161-4_2

[11] Mouta, S., Amado, J., Sequeira, A. C., Silva, J. D., & Costa, A. F. (2023). Teachers' perceptions on the use of artificial intelligence in STEAM education. In Proceedings of the 16th International Conference on Computer Supported Education (pp. 121–129). SCITEPRESS. https://www.scitepress.org/Papers/2024/127137/127137.pdf

[12] Russell, S. J., & Norvig, P. (2016). Artificial intelligence: A modern approach (3rd ed.). Pearson.

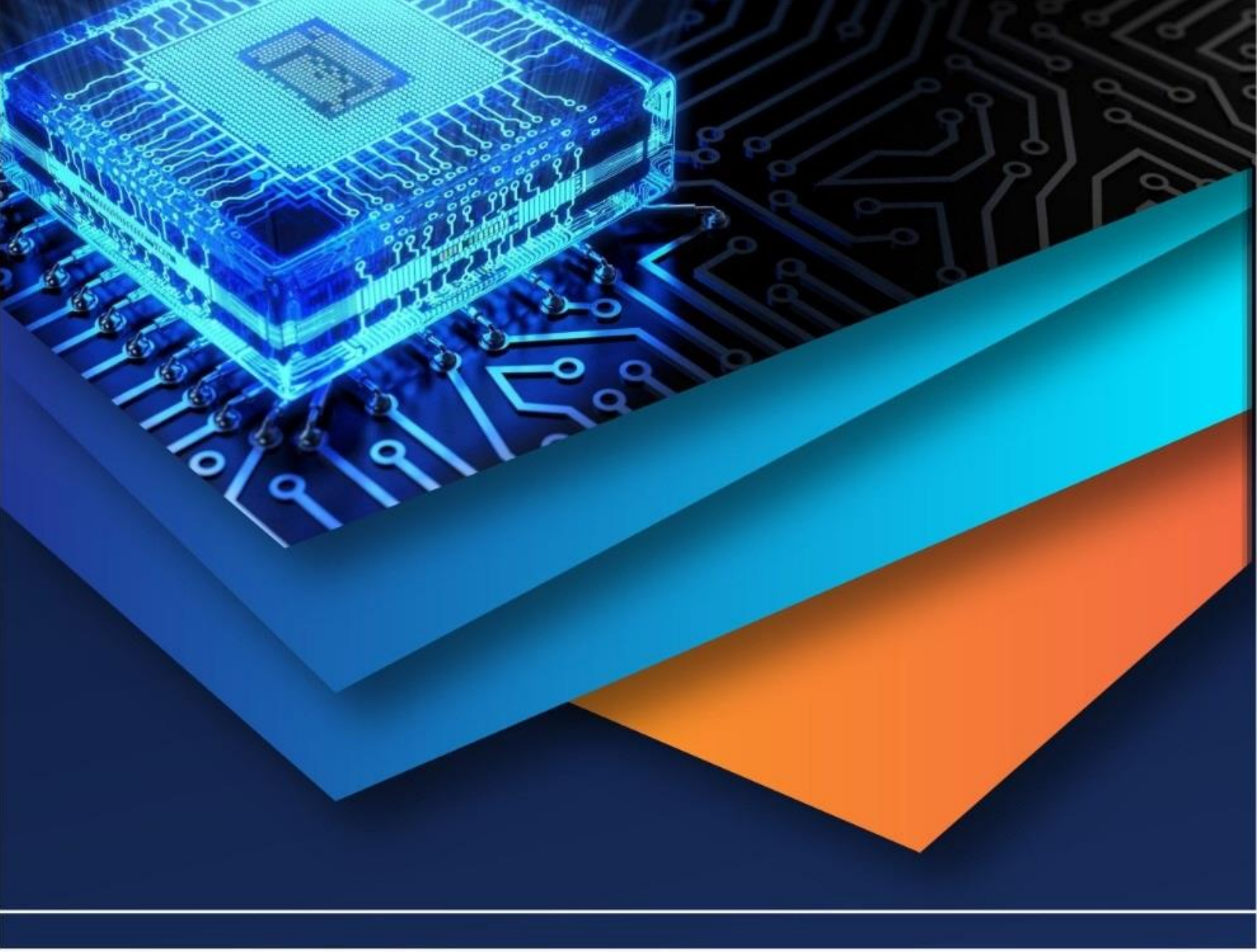
[13] Sandhu, N., & Gide, E. (2019, September). Adoption of AI-Chatbots to enhance student learning experience in higher education in India. In 2019 18th International Conference on Information Technology Based Higher Education and Training (ITHET) (pp. 1–5). IEEE. https://doi.org/10.1109/ITHET46829.2019.8937350

[14] Saxena, N., Kumar, A., Makwana, P., Band, G., Teltumbade, G. R., & Ilankumaran, G. (2024). Artificial intelligence's (AI) role in higher education—Challenges and applications. Academy of Marketing Studies Journal, 28(4), 1–9.

[15] Tao, B., Díaz, V., & Guerra, Y. (2019). Artificial intelligence and education, challenges and disadvantages for the teacher. Arctic Journal, 72(12), 30–50.

[16] U.S. Department of Education. (2023). Artificial intelligence and the future of teaching and learning: Insights and recommendations. Office of Educational Technology. https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf

[17] Vij, V., & Agarwal, S. (2023). Assessing the challenges and opportunities of artificial intelligence in Indian education. ResearchGate. https://www.researchgate.net/publication/379586022



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY