Volume – 3 | Issue – III | May-June 2026 | ISSN: 3049-0278 (Online)

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

Artificial Intelligence-Assisted Yoga Training in Physical Education: Opportunities and Challenges

Dr. Anil Kumar[1]

Abstract:
Artificial Intelligence (AI) is transforming the field of physical education by introducing innovative approaches to yoga instruction, assessment, and personalized learning. AI-assisted yoga training utilizes technologies such as computer vision, motion tracking, wearable sensors, machine learning algorithms, and virtual coaching systems to enhance the effectiveness of yoga education. These technologies enable real-time posture correction, individualized feedback, progress monitoring, and improved learner engagement. In educational settings, AI-supported yoga programs can assist teachers in managing large groups, tracking student performance, and ensuring greater accuracy in practice. The integration of AI in yoga education also presents challenges, including concerns regarding data privacy, technological accessibility, ethical use of learner information, overdependence on digital systems, and the potential reduction of human interaction in teaching-learning processes. Despite these limitations, AI-assisted yoga training offers significant opportunities for improving physical, mental, and emotional well-being. Its thoughtful implementation can contribute to more inclusive, effective, and evidence-based physical education practices.

Keywords: *Artificial Intelligence; Yoga Education; Physical Education; Personalized Learning; Wearable Technology*

ISSN: 3049-0278 (Online) DOI (Crossref) Prefix: 10.63431

AIJITR - Volume- 3, Issue-III, May-June 2026

1. Introduction

Artificial Intelligence (AI) is transforming various sectors of society, including education, healthcare, sports, and physical education. In recent years, AI-assisted training systems have emerged as innovative tools for enhancing learning experiences and improving physical performance. Within the field of physical education, AI technologies provide personalized guidance, real-time feedback, performance monitoring, and adaptive learning opportunities that support learners in achieving their fitness goals (Holmes et al., 2022; UNESCO, 2023). Among various physical activities, yoga has gained global recognition for its contributions to physical health, mental well-being, emotional balance, and holistic development. Artificial Intelligence refers to the capability of computer systems to perform tasks that normally require human intelligence, such as learning, reasoning, problem-solving, pattern recognition, and decision-making (Russell & Norvig, 2021). Modern AI systems employ machine learning, deep learning, computer vision, and natural language processing to analyze data and provide intelligent responses. Yoga is an ancient Indian discipline that integrates physical postures (asanas), breathing techniques (pranayama), meditation, and ethical practices to promote overall well-being. It contributes significantly to physical fitness, flexibility, mental health, stress reduction, and emotional resilience (Sengupta, 2021; WHO, 2022). AI applications in physical education facilitate personalized instruction, movement analysis, performance assessment, and learner engagement. Intelligent systems can evaluate body movements, identify errors, and provide corrective feedback, thereby enhancing learning outcomes (Luckin, 2022). Traditional yoga instruction often depends on the availability and expertise of instructors. AI-assisted yoga training addresses challenges related to accessibility, individualized guidance, and continuous monitoring. Through intelligent systems, learners receive instant feedback and personalized recommendations, making yoga practice more effective and accessible (Kumar & Sharma, 2024).

1. Sports Assistant, Dr. Yaswant Singh Parmar University College of Horticulture and Forestry Thunag at Gohar Gudhari Distt. Mandi (H.P)

DOI Link (Crossref) Prefix: https://doi.org/10.63431/AIJITR/3.III.2026.113-119
AIJITR, Volume 3, Issue –III, May - June, 2026, PP.113-119
Received on 31th May, 2026 & Accepted on 10th June, 2026,
Published: 20th June, 2026.

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

1.1 Objectives

1. To the concept and significance of AI-assisted yoga training in physical education.
2. To the evolution of AI technologies in physical education and yoga practices.
3. To the major technologies used in AI-assisted yoga training.
4. To identify opportunities and challenges associated with AI-supported yoga instruction.

2. Evolution of AI in Physical Education and Yoga

The integration of Artificial Intelligence into physical education and yoga represents a significant advancement in educational technology and fitness training. The evolution of AI-assisted yoga training has been shaped by developments in computing technologies, digital learning environments, and smart fitness ecosystems.

2.1 Historical Development of AI Technologies

The foundations of AI were established through advancements in computational intelligence and machine learning. During the last decade, rapid progress in deep learning, neural networks, and data analytics enabled machines to recognize patterns, process images, and provide intelligent recommendations. These developments laid the groundwork for AI applications in sports and physical education (Russell & Norvig, 2021).

2.2 Digital Transformation in Physical Education

The digital transformation of physical education accelerated with the adoption of online learning platforms, fitness tracking systems, and virtual coaching technologies. Educational institutions increasingly integrated digital tools to support skill development, performance assessment, and student engagement. AI-driven platforms now provide data-based insights that help educators monitor learners' progress and design personalized training programs (Holmes et al., 2022).

2.3 Emergence of Smart Fitness and Yoga Applications

The widespread use of smartphones and wearable technologies facilitated the growth of smart fitness and yoga applications. These applications use sensors, cameras, and machine learning algorithms to track movements, assess posture accuracy, and generate customized recommendations. Popular yoga platforms offer real-time feedback and virtual coaching, enabling users to practice independently while maintaining proper alignment and technique (Patel & Mehta, 2023).

2.4 Integration of AI with Traditional Yoga Practices

AI technologies have increasingly been integrated with traditional yoga instruction to enhance learning experiences without replacing the philosophical foundations of yoga. Computer vision systems analyze body posture, identify alignment errors, and recommend corrections. This integration supports safer practice, particularly for beginners who may not have access to experienced instructors (Sharma & Verma, 2024).

2.5 Current Global Trends

Globally, AI-assisted fitness and wellness technologies are expanding rapidly. The use of intelligent yoga coaching systems, virtual reality-based yoga environments, wearable health monitoring devices, and personalized wellness platforms reflects the growing acceptance of AI in health and physical education. Researchers continue to explore ways of combining AI, data analytics, and holistic wellness approaches to improve user outcomes and engagement (UNESCO, 2023; World Economic Forum, 2024).

3. Technologies Used in AI-Assisted Yoga Training

AI-assisted yoga training relies on several advanced technologies that enable personalized instruction, posture correction, and performance monitoring. These technologies enhance the effectiveness, accessibility, and safety of yoga practice.

3.1 Computer Vision and Pose Detection

Computer vision technology enables machines to interpret visual information from cameras and digital images. In yoga training, pose detection systems identify body landmarks and analyze posture alignment in real time. These systems compare users' movements with ideal yoga postures and provide corrective feedback, helping practitioners improve technique and reduce injury risks (Patel & Mehta, 2023).

3.2 Machine Learning Algorithms

Machine learning algorithms learn from large datasets to recognize movement patterns and predict user needs. In AI-assisted yoga platforms, these algorithms analyze performance data, identify strengths and weaknesses, and recommend personalized practice routines. Continuous learning allows the system to adapt to users' progress and fitness goals over time (Russell & Norvig, 2021).

3.3 Wearable Sensors and Smart Devices

Wearable technologies such as smartwatches, fitness bands, and biometric sensors collect data related to heart rate, breathing patterns, body movement, and energy expenditure. These devices enable continuous monitoring of physiological responses during yoga sessions and provide valuable information for optimizing practice and improving health outcomes (WHO, 2022).

Volume – 3 | Issue – III | May-June 2026 | ISSN: 3049-0278 (Online)

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

3.4 Virtual Reality (VR) and Augmented Reality (AR)

Virtual Reality and Augmented Reality technologies create immersive learning environments that enhance user engagement. VR-based yoga training allows practitioners to experience guided sessions in virtual settings, while AR overlays digital instructions onto real-world environments. These technologies improve learning motivation and support accurate posture execution (World Economic Forum, 2024).

3.5 Mobile Applications and Intelligent Coaching Systems

Mobile applications equipped with AI functionalities have become central to modern yoga instruction. Intelligent coaching systems offer customized lesson plans, voice guidance, progress tracking, and performance analytics. Through real-time interaction and adaptive feedback, these applications provide accessible and cost-effective yoga training opportunities for users across different age groups and skill levels (Kumar & Sharma, 2024; UNESCO, 2023).

The integration of these technologies demonstrates how AI can support effective yoga instruction while promoting accessibility, personalization, and continuous improvement. Successful implementation requires balancing technological innovation with the traditional values and holistic philosophy of yoga practice.

4. Opportunities for Personalized Yoga Learning

Artificial Intelligence (AI) is transforming yoga instruction by enabling highly personalized learning experiences that accommodate the diverse needs, abilities, and goals of students. In physical education, traditional yoga teaching often follows a generalized approach, making it difficult to address individual differences. AI-assisted yoga systems overcome this limitation by analyzing learner data and providing customized guidance, thereby enhancing both effectiveness and learner satisfaction (Holmes et al., 2022; UNESCO, 2023).

4.1 Individualized Training Programs

AI-powered yoga platforms can develop individualized training programs based on factors such as age, fitness level, flexibility, body composition, and prior yoga experience. Through continuous data collection and analysis, AI systems recommend specific asanas, breathing exercises, and meditation practices that suit individual learners. Such personalization helps students progress at their own pace while minimizing the risk of physical strain or overexertion (Kumar & Singh, 2024; Tlili et al., 2023).

4.2 Adaptive Difficulty Levels

One of the significant advantages of AI-assisted yoga training is its ability to dynamically adjust difficulty levels. As learners improve their flexibility, strength, and balance, the system introduces more advanced postures and techniques. Conversely, when difficulties are detected, AI recommends simpler alternatives. This adaptive approach ensures continuous learning progression while maintaining motivation and confidence among students (Luckin, 2022; Zawacki-Richter et al., 2023).

4.3 Real-Time Posture Correction

Computer vision and motion-tracking technologies enable AI systems to monitor body movements during yoga practice and provide immediate posture correction. Real-time feedback helps learners align their bodies accurately, reducing the likelihood of improper execution and potential injuries. Such guidance is particularly beneficial in physical education settings where individual instructor attention may be limited due to large class sizes (Chen et al., 2024; UNESCO, 2023).

4.4 Personalized Feedback and Recommendations

AI applications generate personalized feedback by evaluating performance metrics such as posture accuracy, session consistency, flexibility improvements, and breathing patterns. Based on these analyses, learners receive recommendations for targeted improvement. Personalized feedback fosters self-awareness and encourages students to actively engage in their learning process (Holmes et al., 2022; Tlili et al., 2023).

4.5 Goal-Based Learning and Progress Tracking

Students often pursue different objectives through yoga, including stress reduction, flexibility enhancement, weight management, or athletic performance improvement. AI systems support goal-based learning by creating customized pathways aligned with these objectives. Continuous progress tracking through dashboards and analytics allows learners and educators to monitor achievements and modify training plans when necessary. Such evidence-based monitoring enhances accountability and long-term commitment to yoga practice (Kumar & Singh, 2024; Zawacki-Richter et al., 2023).

5. Enhancement of Physical Education Outcomes

The integration of AI-assisted yoga training in physical education contributes significantly to improved learning outcomes, physical fitness, and student participation. By combining data analytics, intelligent monitoring, and personalized instruction, AI enhances both the quality and effectiveness of yoga education. These advancements align with contemporary educational goals that emphasize individualized learning and holistic development (Holmes et al., 2022; UNESCO, 2023).

5.1 Improved Flexibility and Balance

Published by: Amitrakshar Publishers – Amitrakshar International Journal of Interdisciplinary and Transdisciplinary Research (AIJITR)
https://www.amitrakshar.co.in/journal/ : editor@amitrakshar.co.in DOI (Crossref) Prefix: 10.63431

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

Regular yoga practice supported by AI-guided instruction can lead to significant improvements in flexibility, balance, and body coordination. Real-time posture monitoring ensures that students perform movements correctly, maximizing the benefits of each session. Continuous feedback enables learners to identify weaknesses and gradually improve physical performance, resulting in better overall functional fitness (Chen et al., 2024; Kumar & Singh, 2024).

5.2 Better Physical Fitness Monitoring

AI technologies facilitate comprehensive monitoring of physical fitness indicators, including endurance, strength, mobility, and body composition. Wearable devices and smart sensors collect relevant data during yoga sessions, allowing educators to evaluate student progress objectively. Such monitoring supports evidence-based decision-making and enables timely interventions when performance improvements stagnate (Topol, 2023; Tlili et al., 2023).

5.3 Increased Student Engagement

Interactive AI applications enhance learner engagement by incorporating gamification, virtual coaching, and personalized challenges. Students often find technology-assisted learning more motivating and enjoyable than traditional instructional methods. Increased engagement leads to greater participation rates and sustained interest in physical education activities (Luckin, 2022; Holmes et al., 2022).

5.4 Data-Driven Assessment of Performance

Traditional physical education assessments often rely on observational evaluations that may be subjective. AI systems provide objective, data-driven assessment through continuous measurement of performance indicators. Detailed analytics allow educators to assess student development accurately and provide targeted interventions based on measurable outcomes (Zawacki-Richter et al., 2023; Chen et al., 2024).

5.5 Promotion of Lifelong Fitness Habits

AI-assisted yoga training encourages learners to adopt long-term healthy lifestyle practices by providing continuous support, motivation, and personalized guidance. Through progress tracking and goal achievement systems, students develop greater self-regulation and accountability for their physical well-being. These experiences contribute to the establishment of lifelong fitness habits and a sustained commitment to health promotion (UNESCO, 2023; Topol, 2023).

6. Role of AI in Health and Wellness Monitoring

Beyond instructional support, AI plays a vital role in monitoring overall health and wellness among yoga practitioners. The integration of wearable sensors, machine learning algorithms, and predictive analytics enables continuous assessment of physiological and psychological well-being. Such capabilities are particularly valuable in physical education environments that seek to promote holistic student development (Topol, 2023; Holmes et al., 2022).

6.1 Monitoring Heart Rate and Vital Signs

AI-enabled wearable devices can continuously monitor heart rate, oxygen saturation, respiratory rate, and other vital signs during yoga practice. These data provide valuable insights into students' physical responses to exercise and help educators ensure that activities remain within safe physiological limits. Continuous monitoring also supports individualized exercise prescription and performance optimization (Topol, 2023; Chen et al., 2024).

6.2 Stress and Mental Health Assessment

Yoga is widely recognized for its positive effects on mental well-being. AI systems can analyze physiological and behavioral indicators associated with stress, anxiety, and emotional states. By identifying patterns related to psychological distress, AI applications can recommend appropriate breathing exercises, meditation techniques, and relaxation practices that support emotional resilience and mental wellness (UNESCO, 2023; Tlili et al., 2023).

6.3 Sleep and Recovery Analysis

Recovery is an essential component of physical fitness and yoga practice. AI-driven wellness platforms evaluate sleep quality, recovery patterns, and fatigue levels using data collected from wearable devices. Personalized recommendations regarding rest, exercise intensity, and recovery strategies help students maintain optimal physical and mental performance (Topol, 2023; Kumar & Singh, 2024).

6.4 Injury Prevention Mechanisms

AI systems contribute to injury prevention by detecting movement abnormalities, poor posture, excessive fatigue, and biomechanical imbalances. Early identification of risk factors enables timely corrective interventions before injuries occur. Such preventive measures are particularly beneficial for beginners who may be unfamiliar with proper yoga techniques and body alignment principles (Chen et al., 2024; Zawacki-Richter et al., 2023).

6.5 Holistic Wellness Management

AI facilitates holistic wellness management by integrating data related to physical activity, nutrition, sleep, stress levels, and overall health status. Comprehensive wellness dashboards provide students and educators with a multidimensional understanding of well-being, supporting informed lifestyle decisions and personalized health strategies. This integrated approach aligns with contemporary views of physical education as a means of promoting lifelong health and wellness

Published by: Amitrakshar Publishers – Amitrakshar International Journal of Interdisciplinary and Transdisciplinary Research (AIJITR)
https://www.amitrakshar.co.in/journal/ : editor@amitrakshar.co.in DOI (Crossref) Prefix: 10.63431

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

(Holmes et al., 2022; UNESCO, 2023).

7. Educational Benefits of AI-Assisted Yoga Training

7.1 Accessibility and Inclusivity

Artificial Intelligence (AI)-assisted yoga training has significantly enhanced accessibility and inclusivity in physical education. Traditional yoga instruction often requires physical attendance, trained instructors, and fixed schedules. AI-powered applications and wearable technologies enable learners from diverse geographical, socioeconomic, and physical backgrounds to access yoga training anytime and anywhere. Features such as voice guidance, multilingual interfaces, adaptive difficulty levels, and personalized recommendations help accommodate learners with varying abilities and learning needs. AI systems can also provide modifications for individuals with disabilities, thereby promoting equitable participation in yoga education (Holmes et al., 2022; UNESCO, 2023).

7.2 Remote and Hybrid Learning Opportunities

The integration of AI into yoga instruction supports remote and hybrid learning models that have become increasingly important in contemporary education. AI-driven platforms facilitate virtual yoga sessions, real-time feedback, and progress monitoring, allowing students to continue physical education activities outside traditional classroom settings. Such flexibility enhances continuity of learning during disruptions such as pandemics, natural disasters, or institutional closures. Moreover, remote yoga instruction expands opportunities for lifelong learning and community engagement beyond school environments (Bond et al., 2021; OECD, 2023).

7.3 Enhanced Teacher Support

AI technologies serve as valuable tools for physical education teachers by automating routine tasks such as attendance tracking, performance assessment, and progress analysis. AI-generated reports provide insights into students' posture accuracy, flexibility development, and participation levels, enabling teachers to offer more targeted interventions. Rather than replacing educators, AI complements instructional practices by reducing administrative burdens and allowing teachers to focus on personalized guidance and student well-being (Luckin & Cukurova, 2022; Zawacki-Richter & Marín, 2021).

7.4 Interactive Learning Environments

AI-assisted yoga platforms create engaging and interactive learning environments through gamification, augmented feedback, motion tracking, and real-time corrections. These features increase learner motivation and participation while making yoga practice more enjoyable. Interactive visualizations and performance analytics encourage students to actively monitor their progress and remain engaged in the learning process. Such technology-enhanced environments can improve learning outcomes and foster positive attitudes toward physical activity (Khalil & Er, 2024; Holmes et al., 2022).

7.5 Skill Development and Self-Regulated Learning

AI-assisted yoga training encourages the development of self-regulated learning skills by providing immediate feedback, personalized goals, and continuous performance monitoring. Students can independently assess their progress, identify areas requiring improvement, and adjust their practice accordingly. This promotes autonomy, self-discipline, critical reflection, and lifelong learning habits. Through individualized learning pathways, AI supports learners in achieving mastery at their own pace while fostering confidence and self-efficacy in yoga practice (UNESCO, 2023; OECD, 2023).

8. Challenges and Limitations

8.1 Accuracy Issues in Posture Recognition

One of the major challenges of AI-assisted yoga training is the accuracy of posture recognition systems. Although computer vision and motion-tracking technologies have improved considerably, they may still misinterpret body positions due to lighting conditions, camera angles, clothing variations, or individual anatomical differences. Incorrect posture assessments can lead to ineffective practice and increase the risk of physical injury, particularly among beginners who rely heavily on automated feedback (Khalil & Er, 2024; Holmes et al., 2022).

8.2 Technological Dependence

Excessive reliance on AI technologies may reduce learners' ability to develop independent body awareness and critical self-assessment skills. Students may become dependent on automated corrections rather than cultivating mindful observation and internal understanding of movement. Such dependence can undermine the holistic educational goals of yoga, which emphasize self-awareness, concentration, and intrinsic learning (Luckin & Cukurova, 2022; UNESCO, 2023).

8.3 Limited Understanding of Spiritual Dimensions of Yoga

Yoga extends beyond physical postures and encompasses philosophical, ethical, emotional, and spiritual dimensions. Current AI systems primarily focus on biomechanical analysis and physical performance. As a result, they often fail to convey deeper aspects of yoga such as mindfulness, meditation, self-realization, and spiritual growth. Human instructors remain essential for nurturing these dimensions and contextualizing yoga within its broader cultural and philosophical traditions (UNESCO, 2023; OECD, 2023).

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

8.4 Digital Divide and Accessibility Concerns

Despite improvements in digital technologies, unequal access to devices, internet connectivity, and digital literacy continues to create barriers for many learners. Students from rural, economically disadvantaged, or marginalized communities may face difficulties participating in AI-assisted yoga programs. These disparities can reinforce existing educational inequalities if appropriate support mechanisms are not implemented (Bond et al., 2021; UNESCO, 2023).

8.5 Technical Failures and Maintenance Issues

AI-assisted systems depend on reliable hardware, software, internet connectivity, and regular updates. Technical malfunctions, software errors, sensor inaccuracies, or network disruptions can interrupt learning experiences and reduce user confidence. Educational institutions must therefore invest in infrastructure, technical support, and system maintenance to ensure effective implementation of AI-based yoga training programs (OECD, 2023; Holmes et al., 2022).

9. Ethical, Privacy, and Social Concerns

9.1 Data Privacy and Security

AI-assisted yoga platforms frequently collect sensitive personal information, including biometric data, movement patterns, health indicators, and performance records. Unauthorized access, data breaches, or misuse of such information can compromise user privacy and safety. Educational institutions and technology providers must adopt robust data protection measures and comply with privacy regulations to safeguard users' information (UNESCO, 2023; Williamson & Eynon, 2020).

9.2 Informed Consent and User Rights

Ethical implementation of AI requires transparent communication regarding data collection, storage, and usage practices. Learners and guardians should be informed about how their data are processed and should have the right to access, modify, or withdraw consent. Respecting user autonomy and ensuring informed participation are fundamental principles of responsible AI deployment in educational settings (UNESCO, 2023; Holmes et al., 2022).

9.3 Algorithmic Bias and Fairness

AI algorithms are trained on datasets that may not adequately represent diverse populations. Biases related to age, gender, ethnicity, body type, or physical ability can affect the accuracy and fairness of posture assessments and personalized recommendations. Such biases may disadvantage certain groups and perpetuate inequities in educational experiences. Continuous evaluation and inclusive dataset development are necessary to promote fairness and equity (Williamson & Eynon, 2020; OECD, 2023).

9.4 Psychological Dependence on Technology

Continuous interaction with AI systems may foster psychological dependence, reducing learners' confidence in their own judgment and self-awareness. Students may prioritize algorithmic feedback over personal reflection or instructor guidance. Overreliance on technology can diminish the reflective and mindful aspects of yoga practice that contribute to emotional and psychological well-being (Luckin & Cukurova, 2022; UNESCO, 2023).

9.5 Balancing Human Instruction and AI Guidance

While AI offers valuable support for personalized learning and performance analysis, it cannot fully replace the empathy, motivation, cultural understanding, and interpersonal connection provided by human instructors. Effective yoga education requires a balanced approach in which AI serves as a supplementary tool while educators maintain primary responsibility for holistic instruction, mentorship, and student development (Holmes et al., 2022; Zawacki-Richter & Marín, 2021).

10. Conclusion

The future of AI-assisted yoga education is expected to be shaped by advanced technologies such as computer vision, augmented reality (AR), virtual reality (VR), biometric monitoring, and generative AI. These innovations will enable highly personalized yoga instruction, real-time posture analysis, adaptive training programs, and immersive learning experiences. AI-powered systems may also integrate emotional and physiological feedback to promote holistic well-being. AI-assisted yoga training can become an integral component of smart educational ecosystems. Through integration with learning management systems, wearable devices, health-monitoring platforms, and digital portfolios, educators can track student participation, fitness progress, and wellness outcomes more effectively. Such interconnected systems can support data-driven decision-making and promote lifelong healthy habits among learners. Successful implementation of AI in yoga education requires comprehensive teacher training. Physical education instructors should be equipped with digital literacy, AI awareness, data interpretation skills, and knowledge of ethical technology use. Continuous professional development programs can help educators effectively combine technological tools with traditional pedagogical approaches while preserving the humanistic values of yoga. Educational institutions should establish clear policies regarding data privacy, cybersecurity, ethical AI usage, and equitable access to technology. Governments and educational authorities should invest in infrastructure development, research initiatives, and teacher

Published by: Amitrakshar Publishers – Amitrakshar International Journal of Interdisciplinary and Transdisciplinary Research (AIJITR)
https://www.amitrakshar.co.in/journal/ : editor@amitrakshar.co.in DOI (Crossref) Prefix: 10.63431

Volume – 3 | Issue – III | May-June 2026 | ISSN: 3049-0278 (Online)

Amitrakshar International Journal
of Interdisciplinary and Transdisciplinary Research (AIJITR)
(A Social Science, Science and Indian Knowledge Systems Perspective)
Open-Access, Peer-Reviewed, Refereed, Bi-Monthly, International E-Journal

training programs. Institutions must ensure that AI tools complement rather than replace the role of qualified yoga instructors and promote inclusive participation across diverse learner populations. AI-assisted yoga training presents significant opportunities for enhancing physical education through personalized instruction, improved assessment, and increased learner engagement. However, challenges related to ethics, accessibility, and technological dependence must be carefully addressed. Future research should examine the long-term educational, psychological, and health impacts of AI-supported yoga programs across different age groups and learning environments. A balanced integration of AI and human expertise will be essential for maximizing the benefits of yoga education in the digital age.

References

Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2021). Emergency remote teaching in higher education: Mapping the first global online semester. International Journal of Educational Technology in Higher Education, 18(1), 1–24.
Chen, Y., Wang, H., Li, X., & Zhang, Q. (2024). Artificial intelligence-based motion analysis and posture correction in physical activity training. International Journal of Sports Science and Coaching, 19(2), 145–162.
Holmes, W., Bialik, M., & Fadel, C. (2022). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.
Khalil, M., & Er, E. (2024). Artificial intelligence applications in physical education and sports training: Opportunities and challenges. Journal of Educational Technology Systems, 53(1), 45–68.
Kumar, R., & Sharma, P. (2024). Artificial intelligence applications in yoga training and physical education. International Journal of Physical Education and Sports Sciences, 19(2), 45–61.
Kumar, R., & Singh, P. (2024). Artificial intelligence and personalized fitness training: Emerging applications in physical education. Journal of Physical Education and Sport, 24(1), 55–71.
Luckin, R. (2022). AI for schoolteachers: 100+ ways to use artificial intelligence to support your students and save time. Routledge.
Luckin, R. (2022). Artificial intelligence and the future of physical education. Educational Technology Research and Development, 70(4), 1285–1302.
Luckin, R., & Cukurova, M. (2022). Designing educational technologies in the age of artificial intelligence. British Journal of Educational Technology, 53(5), 1089–1103.
Organisation for Economic Co-operation and Development (OECD). (2023). Digital education outlook 2023: Towards an effective digital education ecosystem. OECD Publishing.
Patel, S., & Mehta, K. (2023). Smart fitness technologies and AI-based posture assessment in yoga practice. Journal of Sports Technology and Human Performance, 15(3), 112–129.
Russell, S., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson Education.
Sengupta, P. (2021). Health impacts of yoga and meditation in contemporary society. Journal of Lifestyle Medicine, 11(2), 87–98.
Sharma, V., & Verma, N. (2024). Integration of artificial intelligence and traditional yoga pedagogy: Emerging perspectives. International Journal of Yoga Studies, 8(1), 21–38.
Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. Smart Learning Environments, 10(1), 1–24.
Topol, E. J. (2023). Deep medicine: How artificial intelligence can make healthcare human again. Basic Books.
UNESCO. (2023). Guidance for generative AI in education and research. UNESCO Publishing.
Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. Learning, Media and Technology, 45(3), 223–235.
World Economic Forum. (2024). The future of AI-driven wellness and fitness technologies. World Economic Forum Reports, 1(1), 1–58.
World Health Organization. (2022). Global status report on physical activity 2022. World Health Organization.
Zawacki-Richter, O., & Marín, V. I. (2021). Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education, 18(1), 1–29.
Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2023). Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education, 20(1), 1–29.

Published by: Amitrakshar Publishers – Amitrakshar International Journal of Interdisciplinary and Transdisciplinary Research (AIJITR)
https://www.amitrakshar.co.in/journal/ : editor@amitrakshar.co.in DOI (Crossref) Prefix: 10.63431