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ARTIFICIAL INTELLIGENCE: BALANCING INNOVATION WITH ETHICS

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INTRODUCTION

Throughout history, certain innovations have dramatically reshaped the way people live, work, and think. Fire, the printing press, electricity, and the internet each marked turning points in human progress. Today, we stand at a similar juncture with Artificial Intelligence[1] (AI) — a technology that has moved rapidly from science fiction to daily reality.

One striking example came in 2023, when the Wimbledon Championship replaced all human line judges with AI. For the first time in history, every call was made instantly by machines — free from fatigue, hesitation, or bias. To some, it was just a sporting experiment; to others, it symbolised a much larger shift. AI had stepped beyond laboratories and prototypes into the very fabric of human decision-making.[2]

The Rise of Artificial Intelligence

At its core, AI is about teaching machines to think and act intelligently. Unlike traditional software that simply follows pre-set rules, AI adapts, learns from data, and improves over time. This ability to self-learn makes it one of the most transformative technologies of our era.

Among its many branches[3], Generative AI has captured global attention. It can write articles, compose music, create art, and even generate lifelike videos. Combined with Natural Language Processing (NLP), AI can now understand context, nuance, and tone — allowing it

to hold conversations, answer questions, and provide insights in ways that feel distinctly human.

AI Across Sectors

AI's reach extends far beyond labs and research papers. It is already embedded in industries that affect our everyday lives:

Agriculture[4] – AI-powered drones and sensors monitor crop health, predict harvests, and detect pests early, helping farmers cut costs and boost food security.

Healthcare – From interpreting medical scans to predicting patient risks, AI supports doctors in making faster, more accurate diagnoses. Wearable devices track patient health in real time.

Retail – AI predicts demand, manages inventory, and powers recommendation engines that personalise shopping experiences.

Consumer Electronics[4]– Smartphones, laptops, and even earphones now use AI to optimise performance and adapt to individual users.

In short, AI is not just a futuristic idea — it is quietly becoming the invisible engine driving modern life.

AI in India

India recognised AI's potential early on. In 2018, it launched its National Strategy for AI under the theme "AI for All."[5] The vision was clear: to position India as a global AI hub while ensuring accessibility across diverse communities.[6]

Key initiatives included:

AI Kosha Portal – A one-stop knowledge hub for AI resources.

AI Compute Portal[7] – Providing researchers with access to advanced computing power.

AI Competency Framework – Establishing global-standard skill development pathways.

iGOT-AI (Mission Karmayogi) – Using AI to train and upskill public officials.

Through global collaborations[6], including with pioneers like OpenAI, India has accelerated AI adoption in governance, education, and industry. Equally important, it has nurtured a skilled workforce ready to shape an AI-driven future.

Trust and Ethical Challenges

Yet, as with every powerful technology, AI comes with risks that must be addressed responsibly.[8] Four challenges stand out:

Bias and Fairness[9] – AI learns from historical data, and if that data reflects social biases, the results can reinforce inequality rather than eliminate it.

Transparency and Explainability[10]– Many AI systems are "black boxes," where decisions are made without clear reasoning. This is dangerous in sensitive areas such as law, finance, and healthcare.

Data Privacy and Security – AI thrives on massive datasets, often containing personal information. Laws like India's Digital Personal Data Protection Act (2023) are crucial to protect citizens.

Deepfakes and Misinformation[11] – Generative AI can produce fake videos, voices, or images that can deceive, defraud, or destabilise trust in public life.

Artificial vs. Human Intelligence

AI is remarkable at processing data and spotting patterns faster than any human ever could. But it lacks what makes us distinctly human — empathy, moral reasoning, cultural awareness, and intuition.[12]

The real opportunity[13] lies in partnership, not replacement. Machines can handle repetitive, data-heavy tasks, while humans provide oversight, empathy, and judgment. The combination is far more powerful than either working alone.

Ethics in AI for Professionals

For professionals, AI is both a powerful ally and a test of responsibility. AI-driven audit tools, predictive risk models, and compliance systems can increase efficiency and accuracy. But their use must remain anchored in the five ethical principles of the profession:

Integrity[14]

Objectivity

Professional Competence and Due Care

Confidentiality

Professional Behaviour[15]

Without these values, technology risks eroding trust in financial reporting, auditing, and governance — areas where trust is non-negotiable.

The Ethical Principles Matrix for AI

For AI to serve humanity[16], it must be guided by strong principles:

Sustainability – Serving society and the environment.

Transparency – Making decision processes understandable.

Accountability – Ensuring responsibility for outcomes.

Privacy & Data Protection – Respecting personal data.

Fairness & Non-Discrimination – Treating all people equitably.

Safety & Reliability – Operating dependably and securely.

Autonomy[17] – Supporting human freedom, not undermining it.

Beneficence – Always striving to do good, not harm.

The Human Role in AI Governance

At its heart, trust in AI[18] is trust in people — the engineers who build it, the regulators who oversee it, the educators who prepare future generations, and the professionals who apply it responsibly.

For accountants and other professions[19], AI should be seen as an enabler of human judgment, not a substitute for ethical responsibility. Machines can assist, but they must not be allowed to decide without human oversight.

CONCLUSION

AI is not a passing trend[20] — it is here to stay. It will reshape industries, redefine professions, and touch every part of our daily lives. But whether this future is empowering[21] or dangerous depends entirely on how we guide it.

By embedding ethics, fairness, and accountability[22] into AI, we ensure it remains a tool for progress, not a source of harm. The question is not just how powerful AI becomes, but how responsibly[23] we choose to use it.

REFERENCES

1. NITI Aayog. (2018). National Strategy for Artificial Intelligence: AI for All. Government of India. Retrieved from https://www.niti.gov.in/sites/default/files/2023-03/National-Strategy-for-Artificial-Intelligence.pdf
2. NITI Aayog. (2021). Principles for Responsible AI. Government of India. Retrieved from https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf
3. Carnegie Endowment for International Peace. (2024). India's Advance on AI Regulation. Retrieved from https://carnegieendowment.org/research/2024/11/indias-advance-on-ai-regulation
4. Research and Information System for Developing Countries (RIS). (2023). AI Ethics in the Global South: India's Role in AI Governance. Retrieved from https://www.ris.org.in
5. Vijayakumar, A. (2023). Ensuring a 'Responsible' AI future in India: RRI as an approach for identifying ethical challenges. AI & Ethics, Springer. https://doi.org/10.1007/s43681-023-00370-w
6. Mohanty, A. (2024). Need for an AI Risk Framework in India. The Economic Times. Retrieved from https://economictimes.indiatimes.com
7. Reserve Bank of India (RBI). (2025). Committee Report on AI in the Finance Sector. Retrieved from https://www.reuters.com
8. Hinton, G. (2024). Godfather of AI warns on ethics and misuse. The Times of India. Retrieved from https://timesofindia.indiatimes.com
9. Wired. (2023). Why AI is still waiting for its ethics transplant. Wired Magazine. Retrieved from https://www.wired.com
10. IIM Nagpur. (2024). HR Conclave highlights: Humanity at the core of AI revolution. The Times of India. Retrieved from https://timesofindia.indiatimes.com
11. TechRadar. (2024). AI's invisible labor is tech's biggest blind spot. TechRadar Pro. Retrieved from https://www.techradar.com
12. Tripathy, A., & Patra, S. Applications of artificial intelligence in agriculture. Artificial Intelligence in Agriculture, 2022; 6(3): 45–56. https://doi.org/10.1016/j.aiia.2022.100020
13. Choudhary, R., et al. Applications of machine learning in healthcare, finance, agriculture, retail, manufacturing, energy and transportation: A review. ResearchGate. https://doi.org/10.13140/RG.2.2.38520.12345
14. Singh, P., & Yadav, R. Role of AI across the agricultural value chain. Electronics, 2024; 13(22): 4362. https://doi.org/10.3390/electronics13224362

15. Kumar, A., & Sharma, M. Artificial intelligence applications in the agri-food sector: A review. Journal of Food Science & Technology, 2021; 58(5): 1503–1515.
16. Financial Times. (2025). Tech for Growth Forum: Harnessing AI in agriculture and sustainability. FT Tech. Retrieved from https://www.ft.com
17. Davenport, T., & Kalakota, R. The potential for artificial intelligence in healthcare. Future Healthcare Journal, 2019; 6(2): 94–98. https://doi.org/10.7861/futurehosp.6-2-94
18. Wikipedia. (2025). Artificial intelligence in healthcare. Retrieved from https://en.wikipedia.org/wiki/Artificial_intelligence_in_healthcare
19. Wikipedia. (2025). Applications of artificial intelligence. Retrieved from https://en.wikipedia.org/wiki/Applications_of_artificial_intelligence
20. LeewayHertz. (2024). AI use cases and applications across industries. Retrieved from https://www.leewayhertz.com/ai-use-cases-and-applications
21. Patel, K., & Verma, S. Machine learning and AI across multiple industries: A review. AI Open, 2024; 3(1): 25–40. https://doi.org/10.1016/j.aiopen.2024.100138
22. Financial Times. (2025). AI for a better society: Small models, big impact. FT Tech. Retrieved from https://www.ft.com
23. National Informatics Centre (NIC). (2023). AI Kosha Portal, AI Compute Portal & AI Competency Framework. Government of India. Retrieved from https://www.nic.in