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India AI Impact Summit 2026 - India Pavilion
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CHEST

Online Courses on Ethics, Values & Life Skills

Course -1

Introduction to Ethics – 2 Credits

Module -1: DEFINITION AND MAJOR THEORIES

Unit 1: The definition
Unit 2: Major Theories of Ethics and Brief description of theories
Unit 3: Ethical Framework and Approaches
Unit 4: Key Distinction between Ethics, Morals, and Values

Module - 2: SCOPE OF ETHICS AND ETHICS IN DIFFERENT DISCIPLINES AND PROFESSIONAL ETHICS

Unit 1: Scope**Unit 2:** Scope of Ethics in Different Disciplines
Unit 3: Professional Ethics**Unit 4:** Challenges of Application

Module – 3: ETHICSIN MODERN TIMES

Unit 1: Ethics in Modern Times**Unit 2:** Future Challenges

Course - 2

Introduction To Values – 2 Credits

Module - 1: VALUE ORIENTATION

Unit 1: The Definition **Unit 2:** Norms and Values**Unit 3:** Perennial Values

Module - 2: VALUES IN MODERN SOCIETY

Unit 1: Modernization and Modernity**Unit 2:**The Rationalistic or Liberal Model
Unit 3: The Revivalist or the Orthodox Model**Unit 4:**The Radical or the Revolutionary Model

Module - 3: TYPES OF CONTEMPORARY SOCIETIES

Unit 1: Traditional Societies**Unit2:**Transitional Societies**Unit 3:**Modern Societies
Unit 4: Post-Modern Societies**Unit 5:** Indian Unity and Diversity Value
Unit 6: UGC Guidelines Value Pravesh 2.0 **Unit 7:**Changing Societies under the Tech. Revo.

Course- 3

LIFE SKILLS- 2Credits:Self Development, Management, Rights &Duties, Personal Safety and Security-

Module - 1: SELF DEVELOPMENT

Unit 1: Emotional Intelligence**Unit 2:**Self-Esteem**Unit 3:** Yoga **Unit 4:** Skills for Quality Life**Unit 5:** The True North Principles **Unit 6:** The Potentiality Of The Four Human Endowments

Module - 2:WORK, HABITS, ENVIRONMENT PROTECTION &FUNDAMENTAL RIGHTS & DUTIES

Unit 1: Work,**Unit 2:**Sense of Duty,**Unit 3:**Habits of Thrift, **Unit 4:**Environment, **Unit 4.1:**Environment Protection Policy,**Unit 5:**Fundamental Rights and Dutiesof The Citizens

Module - 3: NATIONAL SECURITY, PERSONAL SAFETY AND SECURITY

Unit 1: National Security **Unit 2:** Personal Security **Unit 3:** Body Heat: As Temperatures Rise, Please Add Salt**Unit 3.1:** Prevent Electrical Fires at Home**Unit 3.2:** Security Travel Tips**Unit 3.2.1:** Travel Tips **Unit 4:** Sexual Harassment: What Every Working Woman needs to know**Unit 5:** How Burglars Choose Their Victims**Unit 6:** Ten Ways to Protect Your Home**Unit 7:** Credit Card & Cyber Security Precautions **Unit 7.1:** Negative Impact of Excess use of Mobile Phone **Unit 8:** Prudent Precautions against Terrorism.

IMPORTANT NOTE -
Courses will be offered in collaboration with the institutions. Also, students can directly enroll for the Courses. Certificate will be provided jointly by SEED-CHEST and Collaborating Institute.

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Society for Education and Economic Development, New Delhi

EDITORIAL

HUMAN INTELLIGENCE VS. MACHINE INTELLIGENCE: A RACE

The Beginning

The observations and experiences of human beings, life forms distinct from other living beings-led to their sharing with other humans through gestures, signs, and sounds. A major breakthrough occurred when humans learned to convert their observations and experiences into drawings and later into written symbols and scripts. This transformation may have taken millions of years. Yet it liberated knowledge from the confines of individuals and small groups, enabling it to be shared with larger communities and transmitted to younger generations through teaching.

Learning through scripts allowed younger generations to record observations and experiences much faster than earlier generations. This made it possible for a growing number of individuals to learn through written texts and to express their knowledge through writing.

Over time, the training of younger generations evolved into structured teaching. Individuals with expertise in specific domains became teachers. This development occurred in various geographically settled societies, each with its own script. Knowledge emerged in different fields of human activity such as health, agriculture, architecture, governance, warfare, and reflections on the purpose of life.

Much of this knowledge was expressed in concise forms such as verses. However, the ability to reproduce written texts remained limited because making copies was difficult. As a result, societies developed a powerful tradition of memorization and oral transmission.

The human mind was trained to memorize large bodies of knowledge and to reproduce them regularly through recitation. Individuals who mastered such learning were recognized for their ability to remember and interpret large numbers of verses. In Bharat, such knowledge traditions were associated with the Vedas, and scholars who mastered them acquired distinctive titles. Those who knew two Vedas were called Dvivedis (Duvedis), while those who could read, memorize, reproduce, and interpret four Vedas were known as Chaturvedis. The Vedas themselves represent the collective intellectual work of different individuals and groups over thousands of years.

This method partly solved the problem of preserving knowledge when written copies were scarce. Learned scholars travelled and shared their knowledge orally through discourses. Nevertheless, the spread of knowledge and the training of minds in different vocations remained relatively slow and often confined within professional groups. Farmers shared knowledge with farmers, healers with healers, warriors with warriors, and teachers with teachers. Gradually, social groups formed around professions, initially through voluntary association and later through hereditary transmission.

Knowledge derived from observations and experiences was often recorded in short, memorable verses and later expanded into longer texts. Copies of such texts were prepared by trained scribes on palm leaves, similar to paper, called Tadpatras, which were relatively durable. Messages were also inscribed on clay tablets, stone, and metal alloys.

Advances in communication, relying on human and animal energy, helped spread knowledge across geographical regions. Human societies developed two key traits: domesticating animals as sources of energy and protecting themselves from dangerous animals. Over time, this knowledge enabled humans not only to harness animal power but also to mobilize human labor for agriculture, construction, and warfare.

Unfortunately, the ability to control energy also gave rise to another human trait: the exercise of power over others. Groups that controlled animals, agricultural resources, tools, and weapons often used this advantage to dominate other human settlements.

The Age of Mechanical Energy

A transformative moment in human history came with the discovery of a new source of energy-steam, produced by combining water and fire. Earlier sources such as solar, wind, and water energy were used for various purposes but could not easily be harnessed

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ICF News

APPOINTMENT OF SECRETARY GENERAL, ICF

Er. M. S. Katoch, CMD, Kawa Group of Institutions, was appointed as the Secretary General of the Indian Colleges Forum (ICF) vide office notification dated 26 February 2026. This appointment has been made in accordance with the provisions of the Constitution of ICF and the decision taken in the meeting of Secretaries of the Executive Council (EC) of ICF, wherein it was resolved that the head of the institution hosting the Annual Conference of ICF shall serve as the Secretary General of ICF for a period of two years.

Accordingly, as the 26th ICF Annual National Conference was held in collaboration with the Kawa Group of Institutions, Jammu, J&K, the head of the group, Er. Mohinder Singh Katoch, has been nominated as Secretary General of ICF for the years 2026-2027. He shall perform all functions of the Secretary and work towards the promotion and development of ICF as a professional body of colleges in India.

MEETING OF SECRETARIES OF EC OF ICF STATE CHAPTERS

An online meeting of the Secretaries of the EC of ICF State Chapters was held on 14 March 2026 to deliberate on important issues pertaining to higher education. The key issues discussed included the Viksit Bharat Shiksha Adhishthan (VBSA) Bill, 2025, and a circular issued by the University Grants Commission (UGC) regarding the Equity Committee for 2025-26, which replaced the earlier 2012 circular. The circular was subsequently stayed by the Supreme Court following student protests.

College Post - The Higher Education Journal had earlier published editorials and analytical articles on both issues in its October-December 2025 issue. Dr. G. D. Sharma, President, SEED-ICF, invited views from the Secretaries of ECs and member colleges across states.

The Secretary of the Kerala Chapter shared developments from the state, noting that the State Council of Higher Education, Kerala, had convened a meeting and constituted a committee under the chairmanship of Dr. N. V. Varghese, former Vice-Chancellor, NIEPA, to prepare a response to the Bill. He further informed that consultations were being held at the state level and that a formal response would be submitted. Regarding the Equity Guidelines, it was suggested that, since the matter is sub judice, it would be prudent to await the Supreme Court's decision.

Er. M. S. Katoch also conducted consultations with member colleges in Jammu & Kashmir and presented a detailed response to the Bill, which was subsequently submitted to the Select Committee examining the legislation.

Support to ICF Member Colleges

The meeting also deliberated on supporting colleges in preparing Self-Study Reports (SSRs) in light of the revised NAAC guidelines. It was suggested that ICF may assist member institutions in developing SSRs aligned with the updated framework.

The recognition of colleges demonstrating excellence in areas such as Climate Change, use of Educational Technology (EdTech), and Artificial Intelligence (AI) was also discussed. It was proposed that member institutions be invited to submit their innovative practices, which may be evaluated and recognized during the ICF Annual Conference.

Implementation of NEP 2020

Key concerns regarding the implementation of the National Education Policy (NEP) 2020 were revisited, particularly those highlighted during the 26th ICF Conference. These include curricular reforms, faculty orientation, shortage of teachers, student orientation, and the provision of internships.

It was emphasized that the ECs of ICF State Chapters should deliberate on these issues and prepare state-wise reports or policy papers for submission to relevant authorities at both state and national levels.

Strengthening of ICF

The need to strengthen ICF through increased membership, timely payment of annual subscriptions, and clearance of pending dues was strongly emphasized. It was observed that ICF is a unique national-level professional body of colleges, functioning on the lines of the Association of Indian Universities, with institutions as permanent members represented by their heads.

ICF serves as a platform for collective dialogue, sharing of best practices, and advocacy on issues related to higher education. Wider participation from colleges across states will enhance its role as a national network, enabling institutions to learn from one another and contribute meaningfully to the advancement of higher education.

Strengthening College Post - The Higher Education Journal

It was noted that College Post - The Higher Education Journal, published by SEED-ICF, serves as an important medium for disseminating information on policy, planning, management, and financing of higher education in India, as well as global developments in the sector.

It was recommended that all ICF member institutions and their libraries subscribe to the journal, recognizing its value as a key academic and professional resource.

SUPPORTING YOUTH IN COLLEGES

SEED-CHEST has launched online certificate programmes in Ethics, Values, and Life Skills for undergraduate and postgraduate students. Additionally, a 4-credit course focusing on Communication Skills and Critical Thinking has been introduced in response to emerging educational needs.

These programmes are aligned with NEP 2020 and UGC guidelines on value-based education and skill development. Member colleges are encouraged to explore the integration of these courses into their academic offerings to enhance student preparedness and future readiness.

INDIA AI IMPACT SUMMIT 2026

RAHUL AGARWAL *

This paper presents a concise overview of the India AI Impact Summit 2026, highlighting both the processes and outcomes. It offers a comparative perspective by examining the focus of earlier AI summits held worldwide. Additionally, it reports on the use of AI in India as documented in the Case Books.

India AI Impact Summit 2026 was hosted by India during February 18-21, 2026 at Bharat Mandapam, New Delhi. The focus of the event was to showcase how artificial intelligence can be developed, deployed, and used for real-world impact, inclusive development and responsible governance especially in emerging economies.

EVOLUTION OF AI SUMMITS

The AI Impact Summit is an annual multi-stakeholder conference focused on showcasing, evaluating, and advancing the real-world impact of artificial intelligence across sectors such as society, economy, governance, and industry. It is a collaborative forum where stakeholders come together to showcase, govern, and scale AI solutions that create measurable real-world impact across society and industry.

The evolution of global AI summits from 2023 to 2026 reflects a clear shift in how artificial intelligence is understood and governed worldwide. The AI Safety Summit 2023 in the United Kingdom focused primarily on existential risks and safety concerns posed by advanced AI systems.

The Seoul AI Summit 2024 marked a transition toward governance, emphasizing how to translate safety concerns into regulatory frameworks and international coordination.

By the Paris AI Action Summit 2025, the focus shifted further toward implementation. Governments and industry collaborated to turn principles into actionable strategies, with increased global participation and stronger public-private partnerships.

The India AI Impact Summit 2026 represents a major turning point, emphasizing AI for development, inclusion, and global equity. It reframed AI as a tool for public infrastructure and societal transformation, with strong participation from the Global South and a focus on real-world applications in sectors like healthcare, agriculture, and education.

Overall, the narrative has shifted from a narrow, tech-centric perspective to a more inclusive, human-centric approach, positioning AI as a key driver of equitable global progress.

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OBJECTIVES

A primary objective of India AI Impact Summit 2026 was to move from AI experimentation to large-scale deployment, showcasing working solutions in different sectors. The summit also emphasized positioning AI as part of Digital Public Infrastructure (DPI), integrating it with systems such as identity, payments, and public service delivery to function as a foundational layer of national development.

Another key goal was to promote Global South leadership in AI, addressing challenges like affordability, accessibility, and linguistic diversity. This included advancing a "third way" model of AI that balances market-driven and state-led approaches. Closely linked was the focus on inclusive and multilingual AI, particularly voice-based systems designed for low-literacy and diverse language users.

The summit also aimed to strengthen global cooperation on AI governance, through initiatives like the New Delhi Declaration and Frontier AI Commitments, while simultaneously boosting the domestic ecosystem through support for startups, research, compute infrastructure, and skilling.

STAKEHOLDER PARTICIPATION

The summit brought together a highly diverse and influential set of stakeholders. The summit featured strong political participation, including including global leaders, ministers, industry representatives, start-ups, academia and civil society representatives, underscoring the geopolitical importance of AI governance and cooperation.

The private sector was equally well represented, with more than 40 global CEOs and technology leaders in attendance, highlighting the central role of Big Tech in shaping AI development and deployment.

India's domestic industry also played a critical role, with leaders representing sectors like telecom, IT services,

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and digital infrastructure. Multilateral institutions added further depth, with participation from UN, World Bank, and other global development organizations.

The knowledge ecosystem was represented by academic institutions, researchers, and technical experts focusing on areas such as AI safety, sovereign AI, and innovation, with organizations like IIIT Hyderabad contributing as knowledge partners. Meanwhile, the innovation ecosystem included over 600 startups and 300 exhibitors from more than 30 countries, alongside major companies and government technology agencies.

Finally, the summit saw broad public and civil society engagement, with over 250,000 participants, including media, policy commentators, and youth voices. Overall, the event successfully integrated political leadership, industry, academia, global institutions, and the public into a comprehensive, multi-stakeholder AI dialogue.

KEY OUTCOME - NEW DELHI DECLARATION

The summit led to the adoption of the New Delhi Declaration, a global, non-binding framework that outlines a shared vision for the inclusive, responsible, and development-oriented use of artificial intelligence.

At its core, the declaration emphasizes AI for public good, focusing on its role in driving economic growth, improving public services, and enabling social transformation in sectors like healthcare, agriculture, education, and governance. It highlights the need for inclusion and equity, ensuring that developing countries have fair access to AI resources such as compute, data, and models.

It also promotes AI sovereignty, encouraging nations to build local capabilities tailored to their cultural and linguistic contexts. Ethical, human-centric AI and global cooperation through multi-stakeholder engagement are key pillars.

The declaration was widely supported by stakeholders, including representatives from over 92 countries, international organizations, technology companies, academia, and civil society. However, it remains a voluntary and non-binding agreement, meaning it does not impose legal obligations but instead reflects a collective commitment to shared principles.

SECTORAL APPLICATIONS OF AI

The New Delhi AI Summit emphasized AI deployment in healthcare, agriculture, education, and governance, supported by applications in inclusion, energy, finance, industry, and cybersecurity, positioning AI as a development infrastructure for large-scale societal transformation.

GLOBAL SOUTH AND "THIRD WAVE" NARRATIVE

The "Third Way" narrative strongly articulated at the summitis essentially the Global South's attempt to redefine AI governance beyond the dominant US (market-led) and China (state-led) models. It asserts that AI must be inclusive, sovereign, and development-driven; treating AI as a global public good rather than a tool of corporate or state dominance.

OUTCOME DOCUMENTATION

The summit's outcomes are documented across multiple official and external sources.

The Press Information Bureau, Government of India, on behalf of MeitY has issued press releases giving high-level overviews of participation, key themes, and major outcomes such as the declaration.

IndiaAI Mission has released compendiums and thematic publications. These include casebooks (e.g., on AI and gender empowerment) and sector-specific reports, offering deeper insights, use cases, and policy directions. Additionally, the official summit website hosts a range of resources, including session details, research outputs, and media materials, though these are not consolidated into a single document.

INVESTMENTS, COLLABORATIONS, ANNOUNCEMENTS

The summit emerged as a landmark event for global AI investment and collaboration, with announcements exceeding $250 billion across infrastructure, partnerships, and innovation ecosystems. A defining feature of the summit was the scale of capital commitments toward building AI infrastructure, signaling a strong shift toward compute-driven development.

Among the most significant announcements, Reliance Industries, along with Jio, committed approximately $110 billion over seven years to develop AI infrastructure, data centers, and a comprehensive digital ecosystem. Similarly, Adani Group pledged $100 billion, with a focus on renewable energy-powered AI data centers by 2035, highlighting the growing convergence of energy and AI. Microsoft announced a $50 billion global AI investment plan through 2030, with a strong emphasis on the Global South. Other notable contributions included over $2 billion from Yotta Data Services to build an AI hub using advanced GPU infrastructure. The Government of India, through the IndiaAI Mission, also expanded sovereign compute capacity by adding 20,000 GPUs to its existing 38,000, alongside launching a $1.1 billion AI-focused venture fund.

Strategic partnerships formed another cornerstone of the summit. The Tata Group partnered with OpenAI on a data center initiative. Meanwhile, Larsen & Toubro collaborated with NVIDIA to develop India's largest AI factory and advanced compute infrastructure. On the international front, the United States announced a "Tech Corps" initiative to support AI deployment and capacity building in partner countries.

Big Tech firms also introduced multiple initiatives. Google announced partnerships with the Indian government, AI training programs for civil servants, climate-focused collaborations, and research expansion. It also signaled broader investment through a $15 billion AI hub initiative, subsea cable connectivity between India and the U.S., and two global AI funds.

Overall, the summit firmly positioned India at the center of the global AI landscape, with large-scale investments, strategic alliances, and innovation initiatives shaping the next phase of AI development.

TECHNOLOGY AT AI SUMMIT

India AI Impact Summit 2026 was not just policy-heavy, it was also a tech showcase & deployment expo. Compared to earlier summits, this one had a strong emphasis on demonstrations, product launches, and real-world systems.

There was a Large-Scale AI Expo with Live Demonstrations. There were 300+ exhibitors from ~30 countries. India led with Indigenous AI models, multilingual AI systems, public digital infrastructure integrations and Government-backed AI use cases showcasing "AI for population-scale deployment".

In addition, there was major Global Tech Participation with contribution from players like Google, Microsoft, Amazon Web Services, NVIDIA, etc. They demonstrated Cloud AI infrastructure, Enterprise AI solutions, AI platforms and tools.

There were also Academic & Research Demonstrations involving Indian institutes (IITs, IIITs) and international research collaborations.

The summit was a hybrid global showcase, combining Indian applications and sovereign initiatives with global Big Tech infrastructure, international startups, and collaborative innovations. Here are some key highlights:

MAJOR AI MODEL LAUNCHES

The summit featured several significant AI model launches, reflecting a strong push toward sovereign, multilingual, and multimodal AI ecosystems.

The most prominent launches came from Sarvam AI, which introduced 30B and 105B parameter large language models (LLMs), with voice interaction and multilingual reasoning across 22 languages. These models are designed for tasks such as reasoning, coding, and multimodal processing (text, speech, and vision).

Another major contribution was from BharatGen, focusing on development of GenAI for India, launched the Param2 (17B parameter) multilingual model, along with related systems. These models support 22 Indian languages and are tailored for governance, education, and public service delivery.

A major highlight was Gnani.ai, which launched Vachana, a text-to-speech system capable of cloning voices across 12 Indian languages using less than 10 seconds of audio. It also introduced InyaVoiceOS, a voice-to-voice foundational model that preserves tone, emotion, and intent across multiple languages. These systems enable real-time voice interaction and cloning, making AI accessible to non-text users.

A key highlight of these Indian systems is that they treat voice as the primary interface, while global models typically add voice as a layer over text-based systems. Instead of covering languages superficially, India focuses on deep support, including dialects and mixed-language usage. The emphasis is on inclusion (non-English, low-literacy users) rather than premium user experience. These models are designed for public services (governance, healthcare, education) rather than just consumer apps. Also, the systems are optimized for low bandwidth and real-world constraints, unlike compute-heavy global AI systems.

In general, the summit demonstrated that India is not just building multilingual AI. Rather it is redefining it as voice-first, inclusive, and infrastructure-level technology, aimed at bringing AI to the next billion users, rather than enhancing experiences for existing ones.

AI HARDWARE & WEARABLE TECH DEMONSTRATIONS

The summit featured a diverse range of AI hardware and wearable technology demonstrations, highlighting the shift from software-based AI to embodied, real-world systems. One of the most prominent showcases was the Sarvam Kaze Smart Glasses by Sarvam AI. These AI-powered wearable glasses integrate computer vision and voice interaction, allowing users to perceive their surroundings and engage with AI in real time.

In robotics, Addverb Technologies presented the Elixis-W humanoid robot, designed for industrial and warehouse environments. It demonstrated capabilities such as mobility, object handling, and human assistance. Complementing this, the logistics robot by Alphadroid showcased autonomous navigation and warehouse automation, emphasizing AI's role in supply chain optimization.

On the consumer side, the Miko AI robot by Miko illustrated the use of conversational AI in education, acting as an interactive learning companion for children. Meanwhile, emerging healthcare applications were represented by AI-powered health mirrors, which use computer vision to assess health indicators, pointing toward ambient health monitoring systems.

Another highlight was the integration of AI into feature phones through collaborations involving HMD Global (Nokia brand) and Sarvam AI. These devices enable multilingual AI interaction even on low-end hardware, demonstrating a strong focus on edge AI and accessibility.

AI EMBEDDED INTO REAL-WORLD SYSTEMS

The summit showcased multiple examples of AI embedded into real-world systems.

In agriculture, the AgriHub Precision Farming Platform by IIT Indore demonstrated AI-powered precision agriculture, enabling crop monitoring, irrigation planning, and yield optimization, directly supporting farmer decision-making. In healthcare, the Health Platform by IIT/IIIT DRISHTI CPS Foundation showed early disease detection, remote diagnostics and clinical decision support, integrating AI into public health systems.

For agriculture, ANNAM.AI, developed by IIT Ropar, uses AI-enabled weather stations and real-time data to deliver multilingual advisories to farmers, demonstrating how AI platforms can support precision agriculture and rural services.

Governance applications included an AI Predictive Governance Platform by the Government of Madhya Pradesh, which uses data analytics to forecast disease outbreaks, disasters, and employment trends, embedding AI into policy planning. In telecom, companies like Reliance Jio and Bharti Airtel demonstrated AI-driven network optimization and predictive maintenance systems operating at national scale.

In finance, a highlight was AI integrated into payment systems through UPI fraud detection and analytics by the National Payments Corporation of India and Paytm. Education systems featured AI-powered learning platforms by EkStep Foundation and Central Square Foundation, enabling personalized learning and teacher support.

Industrial applications were demonstrated by TCS and L&T, showcasing AI-driven automation and predictive maintenance in manufacturing. In defence, the DRDO presented AI-enabled surveillance and decision-support systems.

Finally, AI integration into Digital Public Infrastructure through platforms like UIDAI, National Payments Corporation of India, and Open Network for Digital Commerce highlighted its role in identity, payments, and commerce systems.

SMART GOVERNANCE & URBAN AI SYSTEMS

The Summit showcased several smart governance and urban AI systems, demonstrating how artificial intelligence is being integrated into public administration and city management.

One notable example was the Vidhan Sathi AI Chatbot, developed by the Delhi Legislative Assembly. This system assists lawmakers by providing real-time access to legislative records, bill analysis, and policy insights through a multilingual, voice-enabled interface.

At the urban level, the Smart Kashi App by the Varanasi Nagar Nigam illustrated AI-enabled citizen services. The platform integrates civic services, grievance redressal, and urban management. Similarly, the AI Predictive Governance Platform by the Government of Madhya Pradesh demonstrated how AI can forecast health risks, disasters, and employment trends, enabling proactive and data-driven policy planning.

Uber and Rapido showed urban mobility systems using data-driven algorithms for traffic optimization, route planning, and last-mile connectivity. In addition, AI-enabled smart infrastructure systems, demonstrated by institutions such as IIT Indore, showed how cities can use AI for infrastructure monitoring, urban planning, and resource optimization.

A key overarching layer was the integration of AI into Digital Public Infrastructure (DPI) through agencies like UIDAI, National Payments Corporation of India, and Open Network for Digital Commerce, enabling scalable identity, payments, and service delivery systems.

Overall, these examples highlight a shift toward AI-driven governance, where AI supports decision-making, enhances citizen services, and optimizes urban systems at scale.

NEW AI PLATFORMS & TOOLS

The Summit saw the announcement of several new AI platforms and tools across sectors such as education, governance, agriculture, media, and infrastructure, highlighting a shift toward platform-based AI ecosystems. At the infrastructure level, the IndiaAI Compute Portal by the Ministry of Electronics and Information Technology was expanded to provide large-scale GPU access for startups and researchers, forming a national AI compute backbone. Complementing this, the AI Compendium by the IndiaAI Mission serves as a repository of AI use cases and implementation frameworks.

Additionally, a collaborative AI skilling initiative by Google and YouTube with the government aims to train creators and professionals in AI tools.

Overall, these platforms illustrate a transition toward integrated, scalable AI systems spanning public infrastructure, sectoral applications, and digital ecosystems.

STARTUPS & INNOVATION SHOWCASES

The Summit featured a vibrant set of startup and innovation showcases, highlighting India's growing ecosystem of startups and applied AI solutions.

Several startups supported by the IndiaAI Mission, showcased their offerings. Among them, Infiheal stood out with its AI-driven mental health platform offering behavioral insights and support, while Wysa demonstrated a conversational AI chatbot focused on emotional well-being.

In agriculture and climate applications, SatSure showcased the use of satellite data and AI for crop risk assessment and climate intelligence, while Intello Labs

presented computer vision tools for crop quality grading and supply chain optimization.

Enterprise and industrial use cases were represented by startups like Atsuya Technologies, which focuses on AI-driven process automation. In infrastructure and public safety, RaiLabs demonstrated AI systems for railway safety and derailment prevention, while IIRIS showcased AI-powered surveillance solutions for industrial and warehouse security.

The summit also included broader innovation platforms such as SATHEE, developed at IIT Kanpur, which provides AI-powered personalized learning paths and multilingual doubt-solving. In the media domain, a Zero-Touch Autonomous Newsroom, supported within the MeitY ecosystem, demonstrated fully automated multilingual news generation from live feeds.

Additionally, a repository of over 110 AI startups, developed by the IndiaAI Mission in collaboration with ecosystem partners, showcased the breadth of innovation across healthcare, agriculture, education, climate, and fintech.

POLICY LEVEL

At the policy level, the Government of India announced the New Delhi Frontier AI Impact Commitments, providing a global framework for responsible and inclusive AI, addressing safety, ethics, and equitable access. Complementing this, the New Delhi Declaration, supported by over 92 countries, established shared principles for sustainable and inclusive AI development, marking a step toward global AI governance.

Nationally, the IndiaAI Mission 2.0, led by the IndiaAI Mission, defined India's core AI architecture, focusing on compute infrastructure, datasets, indigenous models, and skilling ecosystems. This serves as the country's central execution framework for AI growth.

To support implementation, the government released AI Impact Casebooks, documenting over 170 real-world AI use cases across sectors like healthcare, agriculture, and education. These function as replication frameworks for scaling proven solutions.

Additionally, the summit was guided by a conceptual framework built around three pillars – People, Planet, and Progress-emphasizing inclusivity, sustainability, and economic development. Cross-border collaboration frameworks were also discussed to address global risks such as bias and misuse.

The AI India Blueprint presented by Dell Technologies outlined a comprehensive approach to building AI infrastructure, including compute capacity, data ecosystems, governance mechanisms, and workforce readiness.

Overall, these frameworks collectively illustrate a shift toward structured, scalable, and collaborative AI governance and deployment at both national and global levels.

CHALLENGES AND CRITICAL OBSERVATIONS

The summit succeeded in setting the vision for inclusive AI, but exposed the deep structural inequalities that shape who can actually build and benefit from AI. The challenges include compute and funding gaps, Big Tech dominance, weak enforcement mechanisms, implementation barriers, and global governance fragmentation, revealing a gap between aspirational AI policy and practical capability.

CONCLUSION

The India AI Impact Summit 2026 marks a pivotal moment in the evolution of global AI governance, signaling a shift from abstract debates to actionable, development-driven priorities. By bringing together political leaders, industry giants, researchers, startups, and civil society, the summit demonstrated that AI is no longer confined to laboratories or corporate strategy; it is now central to public policy, economic growth, and societal transformation.

What sets this summit apart is its clear articulation of a more inclusive and balanced approach to AI. It positions India, and the broader Global South, not merely as adopters of technology but as active shapers of its future. The emphasis on AI as public infrastructure, the push for democratized access to resources, and the focus on real-world applications across critical sectors reflect a pragmatic and forward-looking vision.

At the same time, the summit did not shy away from highlighting structural challenges-ranging from compute and funding gaps to governance and implementation hurdles. These realities underscore that while the vision is ambitious, its success will depend on sustained collaboration, investment, and execution.

Ultimately, the summit sets the stage for a more equitable and multipolar AI ecosystem-one where innovation is aligned with inclusion, and technological progress is measured by its impact on people and society.

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ROLE OF ARTIFICIAL INTELLIGENCE IN EDUCATION THROUGH THE LENS OF NATIONAL EDUCATION POLICY 2020

DR. SARLA NIRANKARI *

The paper explores the AI vision of NEP-2020 and its implementation at the institutional level. It emphasizes empowering teachers to integrate personalized learning through AI, thereby enhancing student engagement and educational outcomes.

ABSTRACT

In India's National Education Policy (NEP) 2020, artificial intelligence (AI) is placed as a transformational tool to advance educational administration, teaching, learning, and evaluation. The vision of NEP 2020 and new national efforts are briefed in this article, which also recognizes prospects for teacher empowerment and personalized learning, highlights ethical and infrastructure issues, and proposes an execution strategy specific to India's various circumstances with special reference to how AI can assist in teacher training.

INTRODUCTION

With its emphasis on technological integration as a catalyst for equity, quality, and inclusion, the National Education Policy (NEP) 2020 characterizes a paradigm shift in India's educational system. Artificial Intelligence (AI) is emphasised as a game-changing tool to improve evaluation, tailor education, and get students ready for the workforce of the future. Using the framework of NEP 2020, this article explores the role of AI in education, examining prospects, difficulties, and consequences for practice and policy.

NEP 2020 VISION ON AI IN EDUCATION

AI-powered platforms may adapt feedback, content difficulty, and paths to learner profiles, simplifying mastery learning and assisting the multilingual, competency-based progression envisioned in NEP. This is consistent with the technology goal of NEP, which emphasizes adaptive learning tools. Artificial Intelligence (AI) is presented as a transformative tool to update evaluation, customize education, and get students ready for the workforce of the future.

Teachers can focus on pedagogy and socio-emotional support by means of AI to aid with lesson planning, diagnostic feedback, formative assessment analytics, and content curation. This position is reinforced by NEP's emphasis on using technology to improve instructional procedures. In line with NEP's goal to streamline assessment procedures, AI provides continuous, competency-based assessment through automated feedback, item response analysis, and learning analytics dashboards, increasing reliability and lowering administrative burden.

In keeping with NEP's universal transformation objectives, predictive analytics can upsurge institutional governance by supporting resource allocation, attendance monitoring, early-warning systems for dropouts, and focused interventions.

In keeping with NEP's universal transformation objectives, predictive analytics can strengthen institutional governance by supporting resource allocation, attendance monitoring, early-warning systems for dropouts, and focused interventions. As NEP calls for AI education "at all levels" to develop future-ready capabilities, integrating AI literacy and applied projects across school and higher education prepares students for the AI economy.

CHALLENGES AND ETHICAL CONSIDERATIONS

If AI adoption remains concentrated in resource-rich areas, uneven connectivity, device access, and power reliability will hinder equitable adoption and increase learning gaps. Analyses of NEP-aligned AI integration discovered that sensitive learner data requires strong consent frameworks, security standards, and transparent accountability to reduce risks of breaches and exploitation. Culturally representative datasets and fairness audits are essential because bias in training data can sustain disparities in language, socioeconomic, gender, and disability aspects. To utilize AI effectively, educators and administrators need continuing professional development; without human capacity-building, AI tools run the risk of being superficially adopted or dependent. NEP's recommendation for context-based implementation highlights the necessity of locally grounded design and evaluation, as imported solutions may not be fitting for multilingual, varied Indian classrooms.

IMPLEMENTATION FRAMEWORK FOR INDIA

In agreement with NEP's Centre of Excellence (CoE) roadmap, make national and state-level AI-in-education governance bodies with mandates on privacy-by-design,

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data minimization, algorithmic transparency, and inclusion audits. In areas with low connectivity, give priority to shared device models, community digital labs, and offline-first AI technologies. Integrate power backup options and vernacular interfaces to close gaps. Offer teachers/trainers step-by-step professional development in AI literacy, pedagogical incorporation, assessment analytics, and ethical use, with assistance from open educational resources and CoEs. In alignment with NEP's call for AI education at all levels, include AI principles in all grades through age-appropriate modules (data, algorithms, ethics), project-based learning, and multidisciplinary applications (such as agriculture, health, and the environment). Use bilingual content, accessibility features, and culturally relevant problems to co-create datasets and tools with nearby schools and requires fairness testing across a range of populations. Launch measures for teacher workload, learning gains, equity outcomes, cost-effectiveness, and ethical compliance; offer yearly dashboards via CoEs to direct ongoing development. AI has become an essential need for the sustainability of innovations in education. The following review of literature substantiates the concept:

RELATED REVIEWS

Jolly A. & Kaur P. (2025) in their work 'Integrating Artificial Intelligence into India's National Education Policy 2020: Opportunities, Challenges and Strategic Pathways' examine the opportunities AI delineates for personalized learning, teacher improvement and adaptive learning environments, all three being key areas of focus in the NEP 2020. Through thorough analyses, this paper offers a blueprint of the roadmap to integrate AI in the educational field, focused on collaboration between the government, educational institutes and technology providers. The study also endorses policy development to produce an AI-powered educational environment in India that is available to all, regardless of any medical conditions. This research will additionally contribute to the research on AI in education, also serving policymakers and educators to harness AIs' potential for education while limiting the risks associated with AI.

Thawrani U. et al. (2025) in 'Empowering NEP 2020 with Artificial Intelligence: Revolutionizing the Future of Education' explored how AI can empower NEP 2020 in achieving its vision of a more inclusive, flexible, and technology-driven education system. The study deliberated on various AI technologies, their applications in education, and how they come into line with the core objectives of NEP 2020 and examined the challenges and opportunities presented by AI integration in Indian schools, colleges, and universities. The findings highlight how AI can augment learning outcomes, support personalized education, enable skill development, and offer equitable access to quality education across diverse regions of the country.

Khan & Husain (2024) in their study 'Understanding Digitalization of Education through the Lens of NEP 2020: Prospects and Challenges' aim to delve into the multifaceted dimensions of digitalization in education, exploring its potential benefits and obstacles. By addressing the multifaceted issues faced by stakeholders in the education ecosystem, this conceptual analysis sought for quickening the seamless integration of digital technologies into the educational landscape, envisaging a digitally empowered educational system for the nation.

Nayak S. (2024) in her study 'Artificial Intelligence as Modern Technological approach: Thematic Approach in line with NPE-2020' assessed the advantages and drawbacks of adopting AI in education within the NEP-2020 framework. In this study popular articles published in recent years that related to artificial intelligence are selected and explored. The work provides an overview of background of artificial intelligence, impact of AI in Education and seeks to assess the advantages and drawbacks of adopting AI in education.

Saklani S. (2024) investigated the 'Role of artificial intelligence in education: An overview' through qualitative research which explains the potential applications of artificial intelligence in the field of education. This study looked at the effects of employing artificial intelligence (AI) in higher education as well as how the idea can be used to teaching and learning in this setting. It looks at how often changing technologies affect teaching and learning, including how much and how they are used.

Toppo P. (2025) in her study, 'Artificial Intelligence and the National Education Policy (NEP) 2020: A Qualitative Exploration of Integration, Opportunities, And Challenges' identified key themes personalized learning, teacher support, inclusivity, and ethical challenges and proposes actionable recommendations for policymakers and educators, drawing upon literature, policy documents, and thematic analysis. The findings highlight that while AI has immense potential to transform education, its success depends on teacher preparedness, infrastructural readiness, and ethical governance.

Tyagi et al. (2024) studied 'The Role of Artificial Intelligence in Implementing the National Education Policy-2020: Challenges and Opportunities'. Within the NEP-2020 framework, this research study seeks to assess the advantages and drawbacks of adopting AI in education. It highlights the significance of thorough teacher training programs to improve their technical proficiency and foster their comfort with using AI tools. A thorough assessment of the literature, case studies, and interviews with decision-makers in the field of education policy,

administrators, teachers, and students are all part of the research approach. It emphasizes how AI has the ability to revolutionize education while also highlighting the critical factors and actions needed to get beyond obstacles and guarantee everyone has access to AI-enabled education.

In fact, the convergence of AI and NEP can positively contribute to national advancement. AI can help transform structural weaknesses in the Indian education system into areas of strength.

KEY ROLES OF AI IN TEACHER TRAINING (NEP 2020 PERSPECTIVE)

Every teacher must complete at least 50 hours of Continuous Professional Development (CPD) each year, according to the NEP 2020 (Ministry of Education, 2020). By analysing a teacher's subject, grade level, performance data, and particular classroom needs (e.g., teaching children with disabilities), AI-powered platforms (like DIKSHA, which is specifically mentioned by the NEP) help make this training applicable and effective. As a result, the emphasis shifts from one-size-fits-all workshops to focused skill development. AI tools can provide real-time, useful feedback on a teacher's lesson ideas, teaching methods, and classroom interactions can be given by AI techniques (e.g., by analysis of classroom recordings/simulations). This is essential for the NEP's stress on peer cooperation and mentoring.

NEP 2020 emphasizes the importance of incorporating digital tools and technology into teaching. Intelligent tutoring systems, adaptive learning platforms, and automated assessment software are just a few examples of the AI-based modules that teach educators how to use these tools in the classroom. The policy emphasizes the importance of teaching coding, computational thinking, and data analysis to children beginning in middle school. Training equips educators to teach these skills.

AI frees up teachers' time so they may concentrate more on mentorship, instruction, and student engagement-a major goal of the NEP 2020. AI systems can automate exam and assignment grading, giving students fast, unbiased feedback and assisting teachers in identifying learning gaps. They can also help create personalized lesson plans and performance reports based on student data.

Because AI systems can analyze teacher-related data to identify areas where a unit of teachers might need additional support or training (e.g., in a specific pedagogical technique or subject concept), they support the NEP's data-driven method by providing educators and educational administrators with actionable insights. The policy's teacher-requirement planning and recruitment procedure, particularly for children/students beginning in middle school, can benefit from AI's ability to predict future teacher requirements across topics.

CHALLENGES IN IMPLEMENTING AI FOR TEACHER TRAINING

The NEP 2020's vision for digital professional development, frequently through platforms like DIKSHA and SWAYAM, is seriously hindered by fundamental problems in India's educational landscape. For example, many government schools, particularly in rural and remote areas, lack basic functional computers or smart devices for teachers to access or practice with AI-driven training modules; unstable or low-bandwidth internet connectivity and intermittent electricity supply make it difficult for teachers to complete time-sensitive, rich-media-based online CPD (Continuous Professional Development). The stark contrast between resource-rich urban private schools and resource-constrained rural government schools further widens the implementation gap.

One of the main obstacles to the program's success is the current workforce's lack of confidence and abilities. Most existing educators lack the fundamental digital literacy required to interact with or understand AI-driven feedback, analytics, or tools, especially those who are close to retirement or work in rural locations. It's possible that they have never utilized an AI-based system. Teachers often lack organized, required, and excellent training programs that teach them how to apply AI for pedagogy (e.g., employing AI to generate tailored student assessments or alter lesson plans). B.Ed. and D.El.Ed. programs frequently do not incorporate AI training. Some educators are unwilling to embrace and use the new technologies because they are resistant to change or worry that AI tools may someday take their jobs.

Clear frameworks are lacking, yet they are crucial as AI systems handle enormous volumes of sensitive teacher and student data. AI systems' gathering and processing of data regarding student results, classroom interactions, and instructor effectiveness raises serious concerns about data security, privacy, and the misuse of this sensitive information. The ensuing AI-driven recommendations or assessments may show algorithmic bias if the AI training data is distorted or unrepresentative of India's enormous cultural, linguistic, and socioeconomic variety. This could result in unfair or discriminatory outcomes for particular teacher or student groups. The decision-making and feedback-giving processes of AI systems are opaque. The fairness, accountability, and auditability of the evaluation process must be guaranteed to teachers.

It is challenging to scale the significant, ongoing financial commitment required to develop, install, and

maintain high-quality, localized AI training platforms across the entire nation, in addition to supplying the required hardware and high-speed internet. AI training materials must be accessible in several regional languages and tailored to the curriculum and teaching environment of the area. It is a difficult and expensive task to create and maintain these localized resources. To guarantee that AI serves as a vehicle for inclusion rather than exclusion under the NEP 2020, addressing these issues calls for a concentrated effort centered on investments in digital infrastructure, mandated high-quality upskilling programs, and strong ethical frameworks.

CONCLUSION

NEP 2020 presents AI as a systemic accelerator for learner-centered, equitable, and data-informed education rather than as an add-on. Infrastructure fairness, thorough capacity-building, ethical safeguards, and rigorous evaluation are all necessary to realize this objective. India can develop an inclusive and future-ready educational ecosystem with CoEs directing context-based innovation and AI literacy integrated throughout curricula, as long as implementation remains grounded in equity, openness, human and pedagogical purpose.

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ARTIFICIAL INTELLIGENCE, REAL DECEPTION: THE AI MISINFORMATION CRISIS AND ITS WAKE-UP CALL FOR INDIA'S HIGHER EDUCATION LEADERS

DR RAMESH C SHARMA*

This article examines the flip side of AI, cautioning against the risks of unverified content generated by unreliable AI systems. It provides practical suggestions to safeguard faculty, students, and institutions by raising stake-holder awareness of potential adverse effects.

SUMMARY

Imagine a student in your college asking an AI tool about a medicine, a career option, or a political candidate and receiving a confident, well-written answer that was deliberately planted there by someone with an agenda. This is not speculation. It happened in February 2026, and it is happening right now on a massive scale. This article explains how AI tools are being manipulated to spread false information. To explore the dimensions of this crisis that most educators have not yet considered, from regional language vulnerability and impact on students' mental health and career misguidance caused by 'deepfakes' this paper deals with aspects of what India's college principals, vice-chancellors, and policymakers must do urgently in response to these vulnerabilities. With NEP 2020 pushing AI literacy to the centre of Indian higher education, the timing to attend to this crisis could not be more significant.

Keywords: AI misinformation, adversarial manipulation, higher education India, NEP 2020, AI literacy, deepfakes, digital citizenship, institutional leadership, UGC, student wellbeing

1. THE EXPERIMENT THAT CHANGED EVERYTHING

In February 2026, a BBC journalist named Thomas Germain sat down at his computer and, in just twenty minutes, wrote a completely fabricated article on his personal website (Germain, 2026). The article claimed, without a shred of evidence, that Germain was the world's finest hot-dog-eating tech journalist, based on a sporting championship that does not exist. Within twenty-four hours, two of the world's most powerful AI tools, ChatGPT and Google's AI Overviews, were confidently repeating this nonsense to any user who asked (Germain, 2026).

The story might seem funny at first glance. But the same mechanism that made AI tell the world about imaginary hot-dog championships is being used right now to spread false claims about medicines, investment products, political candidates, and educational institutions. As Vosoughi et al. (2018) demonstrated in a landmark Science study, false information spreads approximately six times faster online than true information. AI tools do not merely spread false information; they launder it into an authoritative answer, stripping away the source and delivering the lie in the same calm, confident tone as any fact.

This article is addressed directly to the leaders and administrators of India's colleges and universities. You are the last and most important line of defence. Your students are using these tools every day, often without any guidance about their limitations. The question is not whether this problem affects your institution. It already does. The question is what you are going to do about it.

AI tools do not merely spread false information; they launder it into an authoritative answer, stripping away the source and delivering the lie in the same calm, confident tone as any fact.

2. HOW THE DECEPTION WORKS AND WHY IT IS SO HARD TO SPOT

Modern AI chatbots work in two ways. Some answer from information they were trained on, much like a very well-read student who studied a lot of books. Others, and this is the more dangerous category, actively search the internet in real time to find current information before answering (Kasneci et al., 2023). This second type is increasingly the default for tools like ChatGPT and Google's Gemini. When these tools search the internet and find a well-crafted false article even on an unknown personal website, they absorb its claims and repeat them as their own answer.

Researchers have described this as a form of 'stochastic parroting': the AI does not understand what it is saying; it simply reproduces patterns from text it finds online (Bender et al., 2021). The danger is that it does so in flawless, confident language. Pennycook and Rand (2021) have shown in their research on the psychology of misinformation that fluent, well-written text is far more likely to be believed, regardless of its accuracy. An AI response scores extremely highly on fluency which means it is also, paradoxically, extremely effective at making false information believable.

A group of researchers writing in Nature identified

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the integrity of AI-generated information as one of the five most critical research priorities for the coming years (Van Dis et al., 2023). The concern is not hypothetical; the BBC experiment showed AI tools recommending health products with false safety claims, directing users to manipulated business rankings, and repeating commercially motivated press releases as neutral fact (Germain, 2026). The Germain (2026) experiment also revealed that not all AI tools are equally susceptible, and this matters for institutional procurement decisions.

3. WHY INDIA'S HIGHER EDUCATION SYSTEM FACES A PARTICULAR CHALLENGE

The global AI misinformation problem has dimensions that are especially acute for India, and which have not received sufficient attention in the international literature.

3.1 The Regional Language Vulnerability

Most AI safety research and most attempts to test AI manipulation have been conducted in English. But India has 22 scheduled languages and hundreds of dialects, and AI tools are increasingly being used in Hindi, Bengali, Tamil, Telugu, Marathi, and other regional languages by students who may have limited access to alternative verification sources. The guardrails, content moderation, and fact-checking mechanisms that AI companies have built, imperfect as they are in English, are far weaker in regional languages. A manipulated article in Hindi about a medicine or a government scheme, fed to an AI tool searching Indian websites, may be amplified to millions of users with even less resistance than the BBC experiment found in English (Ouyang & Jiao, 2021; UNESCO, 2023).

3.2 The First-Generation Learner and the Information Desert

Millions of students in India's colleges are first-generation learners, the first people in their families to attend higher education. For many of them, an AI chatbot is not one information source among many; it is the primary information source, because alternatives such as academic libraries, peer-reviewed journals, and access to experts are not easily available (Miao et al., 2021). When the primary information source can be manipulated by anyone with a website, the vulnerability of these students is not merely academic. It affects decisions about health, career, money, and civic life. The digital divide in India, long a concern for policymakers, has acquired a new and more dangerous dimension (NITI Aayog, 2018).

3.3 Career Guidance at Risk

One of the most practically serious consequences for Indian college students is the corruption of career and employment information. Students routinely ask AI tools which companies are hiring, which courses are most valued, which institutions have the best placement records. This is precisely the kind of specific, query-driven information that is most susceptible to manipulation. A private coaching institute or a for-profit education company has every incentive to plant content on the web that makes AI tools recommend their programmes. Breakstone et al. (2021) found that students routinely accept search results and AI answers at face value when evaluating career information, making this one of the highest-risk application areas.

3.4 Healthcare and Wellness Misinformation

India's public health infrastructure means that AI chatbots are de facto healthcare advisors for many young people who cannot easily access a doctor. The BBC experiment documented AI tools repeating dangerous false claims about medicines and supplements (Germain, 2026). A detailed review of AI use in health education confirmed that AI-generated medical content frequently lacks clinical accuracy and that students using AI for health information are at significant risk of acting on false guidance (Sallam, 2023). This is not a marginal concern for Indian colleges; it is a student welfare issue.

4. DIMENSIONS OF THE CRISIS THAT ARE NOT BEING DISCUSSED ENOUGH

4.1 The Deepfake Extension

The AI misinformation problem does not stop at text. The same underlying technology that allows AI tools to generate convincing false written responses also powers deepfakes: synthetic audio and video that can make any person appear to say anything. Floridi et al. (2018) argued presciently that the development of AI without strong ethical frameworks would erode public trust in information at a fundamental level. That erosion is now visible. In an educational context, deepfakes pose direct risks: fabricated videos of teachers, principals, or public figures making false statements about institutions can spread rapidly on student WhatsApp groups and social media, causing reputational damage and institutional panic before any verification is possible (World Economic Forum, 2023). College leaders must understand that the BBC experiment represents only the text-based layer of a much larger deception ecosystem.

4.2 The Economics of Manipulation

It is important for educational administrators to understand that AI manipulation is not just the work of mischievous individuals. It is a commercially organised activity. Marketing agencies, private coaching centres, real estate companies, pharmaceutical distributors, and political organisations all have financial or strategic incentives to shape what AI tools say about them

(Germain, 2026). The SEO industry, which has long gamed search engine rankings, has identified AI manipulation as the next frontier. Researchers describe the current moment as a 'renaissance for spammers,' because AI tools are easier to manipulate than the search engines that preceded them (Germain, 2026). When college students ask AI tools about which entrance exam to take, which city to study in, or which private college has the best hostel facilities, the answers they receive may have been paid for.

4.3 Student Over-Reliance and Mental Health

There is a dimension of this crisis that goes beyond misinformation and into student wellbeing. Research on AI use in education has begun to identify a pattern of cognitive dependency: students who rely so heavily on AI for thinking, writing, and decision-making that their own critical faculties weaken (Celik et al., 2022). When the AI tool they depend on is also being manipulated to give them false information, the combination is particularly damaging. Students who have outsourced their thinking to an AI are least equipped to question what the AI tells them. Holmes et al. (2022), in a framework for ethical AI in education, emphasised that a healthy relationship between a student and an AI tool must preserve and strengthen the student's own agency and reasoning. That principle is being violated on a daily basis in institutions that have adopted AI tools without adequate critical frameworks.

4.4 The Examination and Assessment Crisis

For college principals and examination administrators, the BBC experiment introduces a concern that goes beyond plagiarism detection. Students writing dissertations, project reports, or research papers who use AI to gather information may unknowingly be submitting conclusions based on manipulated data (Cotton et al., 2023). The problem is no longer simply that AI writes the essay, it is that AI may have been fed false information that then flows into the student's work, through the student, and into the academic record of the institution. Anti-plagiarism tools cannot detect this, because the student's writing may be entirely their own, based on genuinely false premises.

5. THE NEP 2020 CONNECTION

India's National Education Policy 2020 makes several strong commitments that are directly relevant to this crisis (Ministry of Education, Government of India, 2020). NEP 2020 explicitly calls for the development of critical thinking, logical reasoning, and digital literacy as foundational competencies. It envisions AI as a tool for personalised learning and improved access. It calls for a culture of inquiry and evidence-based thinking at all levels of education.

These are exactly the capacities that the AI misinformation crisis demands and exactly the capacities that are currently underprovided. NEP 2020's vision of digital literacy does not yet fully account for the adversarial dimension of the digital environment: the fact that the tools students are being encouraged to use are also being actively manipulated by commercial and political actors. Long and Magerko (2020) have defined AI literacy as the set of competencies that allow a person to critically evaluate AI tools, understand how they work, and make informed decisions about their use. NEP 2020's digital literacy vision needs to be extended urgently to include this kind of adversarial AI literacy, and institutions cannot wait for a curriculum revision to begin.

Ng et al. (2021), in a widely cited conceptual framework for AI literacy, identified five dimensions: knowing and understanding AI, using and applying AI, evaluating and creating AI, and doing so with an ethical lens. The dimension most relevant to the current crisis is the evaluative one, and it is the dimension that current educational practice in India least systematically develops. Zawacki-Richter et al. (2019) found in a systematic review of AI in higher education globally that the educator's critical and evaluative role had been largely neglected. That finding applies with particular force to the Indian context.

6. WHAT INSTITUTIONAL LEADERS MUST DO: A FRAMEWORK FOR ACTION

College principals and vice-chancellors are not technology experts, and they are not expected to be. But they are responsible for the learning environment, the safety, and the academic integrity of their institutions. The following steps are practical, evidence-based, and do not require large budgets.

6.1 Develop an Institutional AI Policy - Now

Chan (2023) has proposed a comprehensive AI policy framework for universities that covers acceptable use, academic integrity, teacher guidance, and student rights. Every college in India needs such a policy. It does not need to be long or complicated. It needs to tell students clearly that AI tools can be manipulated, that AI answers require verification, and that the institution takes responsibility for training students in critical AI use. The UGC has begun to issue guidance on AI in higher education; institutions should monitor this guidance and use it as a starting framework while developing their own contextualised policies.

6.2 Make AI Source Interrogation a Cross-Disciplinary Skill

The response to this crisis cannot live only in the computer science or digital literacy classroom. Every subject, whether economics, biology, history, commerce,

law and other disciplines, must teach students to ask: where did this information came from? How many sources confirm it? Is the source independent? Luckin and Cukurova (2019) argued that AI tools should be designed and used in ways that augment human intelligence rather than replace it. The practical implication for teachers is to make source interrogation a habit, not a module.

6.3 Train Teachers Before Training Students

Williamson et al. (2020) noted that higher education institutions have tended to adopt new digital technologies without adequately preparing the teachers who must mediate them. Teachers who do not understand how AI manipulation works cannot teach students to guard against it. Faculty development programmes in every college must now include at least one session on how AI tools source information, what adversarial injection means in practice, and which tools have stronger protections. This is not a full-day workshop; it can begin with a short, structured demonstration of the BBC experiment and a discussion of its implications.

6.4 Revise Assessment Design Urgently

The World Economic Forum's Future of Jobs Report (2023) identified critical thinking and the ability to evaluate information as among the most in-demand skills of the coming decade. Indian universities and colleges that continue to assess students primarily through information recall and synthesis rather than source critique and reasoned argument are not only failing to prepare students for the job market; they are rewarding exactly the intellectual behaviour that makes students most vulnerable to AI manipulation. Assessment reform is also institutional self-defence.

6.5 Choose AI Tools with Care

The BBC experiment demonstrated that different AI tools respond very differently to manipulation attempts, with Claude (Anthropic) showing notably stronger resistance than others (Germain, 2026). Tlili et al. (2023) recommended that educational institutions develop clear evaluation criteria for AI tools before adoption. Resistance to adversarial content injection should now be a standard criterion, alongside data privacy, accessibility, and pedagogical fit. Institutions that simply adopt whichever AI tool is most popular or most affordable, without evaluating its epistemic integrity, are exposing their students to unnecessary and avoidable risk.

7. A FINAL WORD

India's higher education system is at a critical juncture. NEP 2020 has set an ambitious vision for a knowledge-driven, critically engaged generation of graduates. The AI misinformation crisis does not undermine that vision but it does make it harder to achieve without a clear-eyed and active institutional response. The tools our students are using daily can be, and are being, turned against their best interests.

The good news is that the response does not require new buildings, large budgets, or waiting for a government circular. It requires leadership. It requires college principals and vice-chancellors to take this seriously, talk about it openly with staff and students, and begin making the small but consequential changes to policy, to teaching practice, to assessment that will build a generation of students who are not just users of AI but critical, informed, and resilient citizens of the digital world (Zhao & Watterston, 2021).

As Baidoo-Anu and Owusu Ansah (2023) have argued, AI can be a powerful ally in education when used thoughtfully. But as UNESCO (2023) has warned, the risks of uncritical AI adoption particularly in under-resourced educational environments are real and growing. The oracle speaks. It is time to teach our students to question it.

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AI IN THE REAL WORLD - USE & ABUSE OF ARTIFICIAL INTELLIGENCE ACROSS A FEW KEY SECTORS

ER. KAPIL MURDIA*

The paper identifies possible areas of AI use and misuse in real-world scenarios. It underscores both the opportunities and challenges, offering insights into how AI can be harnessed responsibly while mitigating risks.

EXECUTIVE SUMMARY

Artificial intelligence is reshaping four critical sectors - Education, Cybersecurity, Manufacturing, and Agriculture - at an unprecedented pace. Global AI investment reached an estimated USD 300 billion in 2025 (Stanford HAI), while AI-related harm costs-ranging from deepfakes to adversarial cyber attacks-are growing even faster, nearing USD 20 billion. This report surveys the state of beneficial AI deployment alongside its documented misuse patterns, drawing on data from McKinsey, KPMG, the World Economic Forum, and sector-specific studies.

1. Education

Beneficial uses

- Personalised learning: Platforms like Khan Academy's Khanmigo and Duolingo use LLMs to adapt lesson difficulty in real time, improving student retention by up to 40% in controlled studies (Gates Foundation, 2023).
- Accessibility: AI-powered captioning, translation, and text-to-speech tools extend quality education to learners with disabilities and in low-resource languages.
- Teacher productivity: Automated grading and lesson-plan generation saves educators an average of 5 hours per week (EDUCAUSE 2024).

Abuse & risks:

- Academic dishonesty: A 2024 Turnitin analysis found AI-generated text in roughly 11% of submitted assignments globally, up from 3% in 2023.
- Bias in assessment: Automated essay-scoring systems have shown disparate accuracy across dialects and non-native English speakers.
- Data privacy: EdTech platforms collecting granular behavioural data on minors raise significant GDPR and COPPA compliance concerns.

2. Cyber security

Beneficial uses

- Threat detection: ML-based SIEM systems (e.g., Microsoft Sentinel, Darktrace) identify anomalous traffic in milliseconds, reducing mean time-to-detect breaches by 74% vs. rule-based systems (IBM X-Force 2024).
- Vulnerability management: AI code-scanning tools flag security weaknesses before deployment, cutting patch backlogs significantly.

Abuse & risks:

- AI-powered attacks: WormGPT and FraudGPT, uncensored LLM variants sold on dark-web forums, lower the barrier for phishing campaigns and malware generation (SlashNext 2023).
- Deepfake social engineering: Voice-cloning attacks cost businesses an estimated USD 25 million in a single 2024 incident (CNN Business).
- Adversarial ML: Researchers have demonstrated that carefully crafted inputs can fool image classifiers andintrusion-detection models.

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3. Manufacturing

Beneficial uses

- Predictive maintenance: IoT-sensor + ML pipelines predict equipment failure up to 30 days in advance, cutting unplanned downtime by 50% (Deloitte Industry 4.0 Report, 2024).
- Quality control: Computer-vision inspection systems achieve defect detection rates above 99.5%, outperforming human inspectors on repetitive tasks (McKinsey 2023).
- Supply-chain optimisation: AI demand-forecasting reduces excess inventory by 20-30%, translating to billions in freed-up working capital.

Abuse & risks:

- Worker displacement: The World Economic Forum (Future of Jobs 2025) estimates 85 million manufacturing roles globally are at high risk of automation by 2030 without reskilling investment.
- IP theft: AI-assisted reverse-engineering tools have accelerated industrial espionage, with several high-profile cases in semiconductor labs.
- Safety risks: Over-reliance on AI-driven autonomous

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systems without adequate human oversight has been linked to factory accidents.

4. Agriculture

Beneficial uses

- Precision farming: Drone imagery + deep learning enables per-plant nutrient and irrigation management, cutting water usage by up to 30% and increasing yields by 15% (FAO Digital Agriculture Report, 2023).
- Pest & disease detection: Apps like Plantix use CNNs to diagnose crop diseases from smartphone photos with >90% accuracy, benefiting smallholder farmers across Asia and Africa.
- Climate adaptation: AI weather-pattern analysis helps farmers optimise planting calendars in the face of increasing climate volatility.

Abuse & risks:

- Data monopolies: Large AgTech firms aggregating farm data raise concerns about unequal bargaining power and potential price discrimination against smallholders.
- Pesticide over-application: Poorly calibrated AI recommendations have in some cases increased chemical usage, contrary to the stated goal.
- Digital divide: High connectivity and hardware requirements exclude the majority of subsistence farmers insub-Saharan Africa and South Asia.

DETAILED AI IN EDUCATION

Artificial Intelligence (AI) has rapidly transformed education-from adaptive learning systems to generative tools like ChatGPT. What was once supplementary is now becoming central to teaching, learning, and assessment.

A systematic review of 155 studies (2015-2025) shows a sharp rise in AI adoption in education, especially after 2022 with generative AI tools (https://www.mdpi.com/2414-4088/9/8/84)

While AI promises personalization and efficiency, it also raises critical concerns about ethics, cognition, and the very purpose of education.

We will examine use (benefits) and abuse (risks and unintended consequences) of AI in education.

GROWTH OF AI IN EDUCATION

Recent systematic reviews highlight a dramatic increase in AI-focused educational research since 2022, driven largely by generative AI tools.

AI applications in education include:

- Adaptive learning systems
- Automated grading
- Intelligent tutoring
- Content generation

Faculty engagement, however, remains uneven. A study found that 46.7% of academic staff use AI, while 54% rarely or never use it, reflecting a gap between technological availability and pedagogical adoption. (https://edintegrity.biomedcentral.com/articles/10.1007/s40979-025-00189-4)

PRODUCTIVE USE OF AI IN EDUCATION

1. Personalized Learning

AI enables adaptive learning environments that tailor content to individual student needs.

Benefits include:

- Real-time feedback
- Individual pacing
- Enhanced engagement

AI-powered systems can significantly improve learning outcomes when integrated effectively.

2. Teacher Augmentation

AI enhances teacher productivity by automating routine tasks:

- Lesson planning
- Content generation
- Assessment design

This allows educators to focus on higher-value activities such as mentoring and critical discussion.

3. Accessibility and Inclusion

AI plays a transformative role in inclusive education:

- Language translation
- Assistive technologies
- Continuous learning support

These capabilities are particularly important in developing contexts with limited teacher resources.

4. Skill Development

AI introduces new competencies:

- Digital literacy
- Prompt engineering
- AI-assisted problem solving

These skills are essential for future workforce readiness.

ABUSE AND RISKS OF AI IN EDUCATION:

AI and Academic Integrity:

Academic integrity has emerged as a central concern in AI adoption.

- Over one-third of students use AI tools for assessments without perceiving it as misconduct (https://www.sciencedirect.com/science/article/pii/S2666920X24000766)

  AI-related cheating cases increased nearly fourfold between 2022 and 2025. (https://www.mdpi.com/2227-7102/16/3/483)

  This shift suggests a redefinition of cheating, where traditional boundaries between assistance and authorship are increasingly blurred.

1. Academic Misconduct and Integrity Crisis

AI has fundamentally altered academic misconduct patterns:

- AI-assisted cheating cases increased

significantly (1.6 to 7.5 per 1000 students)
" 18% of students admit integrating AI-generated content directly into an assignment

Furthermore, AI-generated work is increasingly difficult to detect, challenging traditional assessment systems.
" https://www.mdpi.com/2227-7102/16/3/483
" https://arxiv.org/abs/2511.11369

2. **Cognitive Dependency and Decline in Critical Thinking**

One of the most concerning trends is over-reliance on AI:
" Students increasingly use AI for idea generation, summarization, and writing
" Heavy reliance may reduce:
  o Analytical thinking
  o Problem-solving skills
  o Creativity

Research suggests that AI can lead to a form of "intellectual outsourcing", where learners delegate cognitive effort to machines.

3. **Ethical and Bias Concerns**

AI systems inherit biases from training data, leading to:
" Reinforcement of stereotypes
" Misrepresentation of knowledge
" Lack of contextual accuracy

Educators have identified concerns related to:
" Scientific inaccuracies
" Intellectual property violations
" Ethical misuse (https://edintegrity.biomedcentral.com/articles/10.1007/s40979-025-00189-4)

4. **Blurring Boundaries of Authorship**

A major challenge lies in defining authorship:
" AI-assisted vs AI-generated work
" Degree of human contribution

As noted in recent policy discussions, the line between assistance and generation remains unclear, complicating assessment and evaluation frameworks. (https://openeducat.org/articles/ai-academic-integrity-guide-for-schools/)

5. **Psychological and Behavioral Impacts**

Emerging research highlights psychological dimensions:
" "AI guilt" among students
" Reduced self-efficacy
" Dependency on AI for validation

These factors influence not just learning outcomes but also learner identity and motivation.

6. **Institutional Readiness Gap**

Despite widespread adoption:
" Only a minority of educators feel confident using AI
" Policies remain inconsistent and evolving

This creates a "shadow pedagogy", where students use AI informally without structured guidance. (https://arxiv.org/abs/2511.11369)

THE EMERGING AI DIVIDE

A new form of inequality is emerging in education:

1. **Two Types of Learners**
   " AI-dependent learners - rely heavily on AI outputs
   " AI-augmented learners - use AI critically and strategically

   Only a small proportion of students engage in critical AI use, gaining a significant cognitive advantage.

2. **Implications**

   This divide may influence:
   " Academic performance
   " Employability
   " Innovation capacity

   Thus, AI literacy is becoming a key determinant of educational equity.

RETHINKING ASSESSMENT IN THE AI ERA

Traditional assessment models are increasingly ineffective.

1. **Limitations of Conventional Assessment**
   " Essays and take-home assignments are easily AI-assisted
   " Detection tools are unreliable

2. **Emerging Alternatives**
   " Oral examinations
   " Project-based learning
   " Real-world problem solving

   Frameworks like the AI Assessment Scale (AIAS) demonstrate that integrating AI into assessment can improve outcomes while reducing misconduct (https://arxiv.org/abs/2403.14692)

TOWARDS RESPONSIBLE AI INTEGRATION

1. **AI Literacy as Core Curriculum**

   Students must learn:
   " How AI works
   " Limitations and biases
   " Ethical use

2. **Human-in-the-Loop Education**

AI should augment-not replace-human judgment:
" Teacher oversight
" Reflective learning
" Collaborative discussion

3. **Policy and Governance**

Institutions must develop:
" Clear AI usage guidelines
" Ethical frameworks

ARTIFICIAL INTELLIGENCE TOOLS IN RESEARCH METHODOLOGY AND ACADEMIC WRITING

DR. P. MOHAMED ALI*

The paper discusses use of AI in Research as a collaborator rather than to replace the researcher. It also brings AI tools that help in research and assist the researchers in their research work.

ABSTRACT

The rapid development of Artificial Intelligence (AI) has significantly transformed academic research methodologies and scholarly publishing practices. Researchers today face an unprecedented volume of academic literature, making it increasingly difficult to identify relevant studies, synthesize knowledge, and produce high-quality research outputs. AI- driven research tools provide innovative solutions by assisting scholars at multiple stages of the research process, including problem identification, literature review, data collection, analysis, academic writing, and publication. Platforms such as Consensus, Elicit, Jenni AI, Paperpal, and Thesify assist researchers in formulating research questions, synthesizing literature, and producing well-structured manuscripts. Additional platforms including Scite, ResearchRabbit, Zotero, Connected Papers, and SciSpace enhance literature discovery, citation analysis, and knowledge visualization. This article examines the integration of AI tools across the entire research lifecycle and discusses their advantages, limitations, and ethical implications for academic research. The study argues that AI technologies act as intellectual collaborators rather than replacements for researchers, improving efficiency, research quality, and knowledge dissemination.

Keywords: Artificial Intelligence, Research Methodology, Literature Review, Academic Writing, Scholarly Publishing, Research Tools

1. INTRODUCTION

Academic research has undergone profound transformation in the digital era. The global expansion of higher education institutions and the increasing emphasis on research productivity have led to a rapid growth in scholarly publications. Thousands of new research papers are published daily across numerous disciplines, making it difficult for researchers to keep pace with the expanding knowledge landscape.

Traditional research methodologies relied heavily on manual processes such as library searches, printed journals, and limited digital databases. Although these methods were effective in earlier academic environments, they are no longer sufficient to manage the vast volume of modern scientific literature.

Artificial Intelligence (AI) has emerged as a transformative technology capable of addressing these challenges. AI systems utilize machine learning algorithms, natural language processing, and advanced data analytics to interpret large volumes of information and provide meaningful insights.

The integration of AI into research workflows is particularly beneficial for faculty members and postgraduate students who must balance teaching responsibilities with research productivity. AI tools also support interdisciplinary research by enabling scholars to explore connections across multiple academic fields.

In academic research, AI tools are increasingly being used to assist scholars in conducting literature reviews, generating hypotheses, analyzing datasets, organizing references, and improving the quality of research manuscripts. These tools enable researchers to focus more on conceptual and analytical aspects of research while automating repetitive tasks.

The integration of AI into research workflows is particularly beneficial for faculty members and postgraduate students who must balance teaching responsibilities with research productivity. AI tools also support interdisciplinary research by enabling scholars to explore connections across multiple academic fields.

This paper explores how AI-powered platforms are transforming research methodologies and academic publishing practices, with particular emphasis on tools that support literature review, citation management, research writing, and scholarly communication.

2. AI IN RESEARCH PROBLEM IDENTIFICATION

The first stage of any research project involves identifying a research problem and formulating a clear research question. This process requires extensive exploration of existing literature to determine gaps, unresolved issues, or emerging trends in a particular field.

AI-powered academic search engines such as

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Consensus provide an innovative approach to research discovery. Instead of relying solely on keyword-based searches, these systems allow researchers to ask questions in natural language. The AI system then retrieves relevant peer-reviewed studies and summarizes the consensus of scientific evidence related to the query.

Similarly, Elicit assists researchers in exploring research questions by extracting structured information from academic papers. The platform can analyze hundreds of studies simultaneously and organize them into structured tables containing details such as research methodology, sample size, key findings, and limitations.

These tools significantly enhance the process of research problem identification by enabling scholars to:

- identify research gaps more efficiently
- compare findings from multiple studies
- explore interdisciplinary connections
- refine research hypotheses

By providing evidence-based insights, AI systems help researchers formulate well-defined and relevant research questions.

3. AI-ASSISTED LITERATURE REVIEW

The literature review is a critical component of academic research because it establishes the theoretical and empirical foundation for a study. However, conducting a comprehensive literature review can be extremely time-consuming, especially in rapidly evolving research fields.

AI-powered platforms have revolutionized the literature review process by automating literature discovery and synthesis.

3.1 Literature Discovery and Recommendation

The AI platform ResearchRabbit helps researchers discover relevant studies through citation networks and recommendation algorithms. By analyzing the relationships between research papers, the system suggests additional studies that are closely related to the researcher's topic.

Another innovative tool is Connected Papers, which generates visual maps of academic publications. These maps illustrate how different research papers are connected through citations and shared references.

Such visual representations help researchers identify:

- foundational papers in a field
- influential authors and institutions
- emerging research trends
- clusters of related studies

Visualization tools significantly enhance researchers' ability to navigate complex academic networks.

3.2 Smart Citation Analysis

Understanding the context of citations is essential for evaluating the credibility of research findings. The AI platform Scite introduces the concept of "smart citations," which analyze how research papers cite one another.

Unlike traditional citation indexes that simply count citations, Scite classifies citations into three categories:

- Supporting citations - studies that confirm the findings of a cited article
- Contrasting citations - studies that challenge or contradict the findings
- Mentioning citations - studies that reference the article without evaluating its findings

This contextual citation analysis enables researchers to determine whether a particular study is widely supported or contested within the academic community.

4. DATA COLLECTION AND RESEARCH ANALYTICS

Data collection is a crucial stage of research methodology. With the increasing availability of digital data sources, researchers often work with large datasets that require sophisticated analytical tools.

AI technologies assist in data collection through automated systems capable of gathering information from:

- online databases
- digital surveys
- social media platforms
- institutional repositories

Once data are collected, machine learning algorithms can analyze patterns and relationships within the dataset.

Common AI-driven analytical techniques include:

- predictive modeling
- sentiment analysis
- clustering and classification
- natural language processing

These techniques enable researchers to analyze large volumes of data more efficiently and identify patterns that might not be detectable through traditional statistical methods.

AI-powered analytics tools are particularly useful in disciplines such as social sciences, economics, education, and healthcare, where large datasets are increasingly common.

5. AI IN ACADEMIC WRITING AND MANUSCRIPT PREPARATION

Academic writing requires precision, coherence, and adherence to disciplinary conventions. AI-powered writing assistants provide valuable support in improving the quality of research manuscripts.

The platform Jenni AI helps researchers generate structured academic content by providing suggestions for sentence completion, paraphrasing, and argument development.

Similarly, Paperpal focuses on improving grammar, clarity, and academic tone. The tool is widely used by

researchers preparing manuscripts for international journals.

These AI writing assistants offer several advantages:

- grammar and language correction
- improvement of academic tone and style
- paraphrasing of complex sentences
- suggestions for strengthening arguments

Such tools are particularly beneficial for non-native English-speaking researchers who aim to publish in international journals.

6. THESIS DEVELOPMENT AND RESEARCH ORGANIZATION

AI-based platforms such as Thesify assist researchers in organizing their research materials and structuring their documents.

These platforms provide features such as:

- Finding alternative words/phrases to avoid plagiarism
- Enhancing vocabulary for clearer writing
- Suggesting synonyms for repetitive words
- Improving sentence structure and flow

It can also be used to paraphrase complex ideas, simplify jargon-heavy texts, or even get suggestions for better word choices.

7. REFERENCE MANAGEMENT AND CITATION TOOLS

Accurate citation management is essential for maintaining academic integrity and avoiding plagiarism. Reference management software enables researchers to organize and cite sources efficiently.

One of the most widely used tools in this domain is Zotero.

Zotero allows researchers to collect, organize, and manage bibliographic data from multiple sources. The software automatically extracts citation details from academic databases and websites.

Key features of Zotero include:

- automatic reference extraction
- integration with word processors
- generation of bibliographies in multiple styles
- collaborative reference libraries

By automating citation management, Zotero significantly reduces the risk of citation errors in research manuscripts.

8. AI-BASED UNDERSTANDING OF RESEARCH PAPERS

Researchers often encounter complex academic papers containing technical terminology and sophisticated methodologies. AI-powered platforms such as SciSpace help scholars understand such papers more efficiently.

Researchers can upload a PDF article to the platform and interact with the AI system by asking questions about specific sections of the paper.

SciSpace provides features such as:

- automatic summarization of research articles
- explanation of technical terms
- extraction of figures and tables
- contextual explanations of research methods

These capabilities enable researchers to quickly grasp the main ideas and contributions of complex research papers.

9. AI TOOLS FOR ACADEMIC PUBLISHING

Publishing research findings in reputable journals is a key objective for academic researchers. AI tools provide support during this stage by helping authors prepare manuscripts that meet journal standards.

AI-assisted publishing tools offer functions such as:

- journal recommendation systems
- plagiarism detection
- formatting according to journal guidelines
- manuscript quality evaluation

These tools are particularly useful for identifying journals indexed in major databases such as Scopus and Web of Science. Researchers can also analyze journal rankings to target high- impact Q1 or Q2 journals.

By providing detailed feedback on manuscript quality, AI tools help researchers improve their chances of publication in competitive academic journals.

10. ADVANTAGES OF AI TOOLS IN RESEARCH

The integration of AI technologies into research methodologies offers numerous advantages.

Efficiency and Time Saving

AI tools significantly reduce the time required for literature review, data analysis, and manuscript preparation.

Access to Extensive Knowledge Bases

AI-powered platforms can analyze millions of academic papers simultaneously, providing researchers with access to comprehensive knowledge resources.

Improved Research Quality

AI systems help researchers identify credible sources and avoid unreliable information.

Enhanced Collaboration

Many AI platforms support collaborative research environments, allowing multiple researchers to work together on shared projects.

Evidence-Based Research

AI tools provide evidence-backed insights derived from peer-reviewed literature, strengthening the credibility of research findings.

11. ETHICAL CONSIDERATIONS AND CHALLENGES

Despite their numerous advantages, AI tools also raise several ethical and methodological concerns.

Reliability Issues

AI-generated summaries may occasionally misinterpret research findings, requiring researchers to verify information manually.

Academic Integrity

Overreliance on AI-generated text may raise concerns regarding originality and authorship.

Bias in Algorithms

AI systems may reflect biases present in their training data, which could influence research outcomes.

Transparency

Many academic journals now require authors to disclose the use of AI tools in manuscript preparation.

Researchers must therefore use AI technologies responsibly while maintaining scholarly integrity.

12. FUTURE PROSPECTS OF AI IN RESEARCH

The role of AI in academic research is expected to expand significantly in the coming years. Emerging developments include:

- automated systematic literature reviews
- AI-assisted hypothesis generation
- intelligent peer-review systems
- predictive research analytics

These innovations may lead to a new paradigm of AI-augmented research, where human expertise and machine intelligence work together to accelerate scientific discovery.

Universities and research institutions will increasingly integrate AI training into research methodology courses to ensure that faculty members and students can effectively utilize these technologies.

13. CONCLUSION

Artificial Intelligence is rapidly transforming the landscape of academic research and scholarly communication. AI-powered tools now support nearly every stage of the research process, from research problem formulation and literature review to data analysis, academic writing, and journal publication.

Platforms such as Consensus, Elicit, Jenni AI, Paperpal, Thesify, Scite, ResearchRabbit, Zotero, Connected Papers, and SciSpace collectively form a powerful digital ecosystem for modern academic research.

While these technologies provide numerous benefits in terms of efficiency, accuracy, and accessibility, researchers must continue to exercise critical thinking and ethical responsibility when using AI-assisted tools.

Ultimately, AI should be viewed not as a replacement for human researchers but as an intelligent collaborator that enhances the capacity of scholars to generate knowledge and contribute to global scientific advancement.

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8. Scite Smart Citation Platform Documentation.
9. SciSpace AI Research Platform Documentation.
10. Zotero Reference Management Software Documentation.

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for continuous mechanical motion.

Steam power changed this. It enabled the movement of wheels and machines independent of natural conditions such as wind or flowing water. The combination of mechanical energy and the wheel, an invention dating back to early civilization-marked a major shift in human capability.

Earlier, animals such as horses were used as sources of mechanical energy, which is why the term horsepower became a measure of power. Humans, however, could not domesticate faster and more ferocious animals like lions or tigers. Consequently, terms such as "lion power" or "tiger power" never emerged.

Interestingly, human imagination often went beyond practical limitations. In the mythological traditions of Bharat, the goddess Durga is depicted riding a tiger, while Kartikeya, the son of Shiva and Durga, is described as riding a fast-flying bird. These narratives reflect the imaginative reach of human thought even when such feats were not practically possible.

With the discovery of steam power, humans began exploring and harnessing other forms of energy, including electricity, internal combustion engines powered by oil, and other mechanical systems. These developments liberated energy production from fixed locations and made it mobile. This transformation accelerated advancements in nearly

every sphere of human activity, including agriculture, industry, transport, and communication.

Another technological breakthrough was the development of compact, chemically stored energy such as dynamite. Initially used to reshape land for agriculture, mining, and infrastructure, it was later adapted for warfare in the form of bombs, and eventually atomic weapons.

This dual-use nature of technology reinforced the dual traits of human intelligence: cooperation for development and the pursuit of power over others. While cooperation led to tremendous progress in human welfare, the concentration of power also enabled destruction.

Historians have shown that human intelligence has been used both to solve problems-such as food production, water management, education, health, governance, and communication-and to wage wars. The outcome has depended largely on how knowledge and power are distributed.

Technological power also translates into economic, political, and military influence. When such power becomes concentrated in particular regions or societies, it can lead to domination over others-a phenomenon often described as hegemony. Behind such political and strategic dominance often lies an economic agenda, sometimes visible but often concealed.

When societies resist such domination, conflicts emerge. These conflicts have repeatedly resulted in destruction on both sides. The historical record shows that the capacity of human intelligence for both creation and destruction increased dramatically after the development of mechanical and electronic energy sources.

From Human Intelligence to Machine Intelligence

Until the mid-twentieth century, decision-making and thinking were entirely human functions. Machines carried out tasks according to instructions provided by humans-what we now call software-running on physical computing infrastructure.

In 1950, mathematician and logician Alan Turing posed a profound question: Can machines think? This question planted the seed of what we now see as the race between human intelligence and machine intelligence.

Turing proposed that the human brain at birth resembles an "unorganized machine" which becomes organized through training. He also proposed a test-the Turing Test-to determine whether a machine could exhibit intelligent behaviour comparable to that of a human.

From the 1950s to the early 2000s, steady advances were made in electronics, computing, and communication technologies. Early computers used punched cards and mechanical data processing systems. These evolved into digital computers with increasing processing speed and decreasing physical size, thanks to breakthroughs in physics related to waves, particles, and signal compression.

The integration of computing with communication networks eventually led to the internet and the World Wide Web. Search engines enabled instant access to massive repositories of stored information. Software systems began performing tasks such as grammar correction, translation between languages, and voice recognition.

Advances in neural networks and algorithms enabled machines to process data, language, and images more effectively. This led to the development of Large Language Models (LLMs) and later multimodal systems capable of handling text, data, images, and sensory inputs.

These developments were made possible by breakthroughs in microelectronics, allowing extremely small electronic components-thousands of times thinner than a human hair-to be embedded on silicon chips and graphical processing units (GPUs). Through training on vast amounts of data, machines began to display capabilities resembling basic cognitive functions.

When machines began producing responses that went beyond the specific question asked, a sense of concern emerged among developers and policymakers. Machine intelligence processes enormous volumes of data at high speed, consuming substantial amounts of energy to generate responses.

Modern AI systems developed by companies such as OpenAI, Microsoft Copilot, Google Gemini, Anthropic, and DeepSeek can analyze millions of data points within seconds. Their capacity offers immense opportunities for research, analysis, and problem solving. Combined with emerging technologies such as quantum computing, these systems may help address complex scientific questions that have long puzzled human intelligence.

However, concerns remain. If Artificial General Intelligence (AGI) or Super-intelligent AI were to emerge, it could concentrate unprecedented power in the hands of a few organizations or nations. Such concentration could pose risks to humanity if machine-generated decisions exceed human oversight.

The Continuing Race

Thus, we now stand at a critical moment in the evolution of intelligence. The relationship between Human Intelligence (HI) and Machine Intelligence (MI)-commonly called Artificial Intelligence (AI)-has become a race.

Yet the story does not end in fear. Human intelligence has evolved over millennia. It has repeatedly adapted to new technologies and overcome emerging challenges. The same capacity for creativity, ethical reflection, and cooperation that enabled humanity to build civilizations may also guide it in ensuring that machine intelligence remains a tool for human progress rather than a threat.

In that sense, the real challenge is not merely technological. It is about ensuring that the development and use of machine intelligence remain aligned with the broader goals of human welfare and societal wellbeing.

WHY ANTHROPIC IS IN THE NEWS?

The development of Artificial Intelligence (AI) can be traced back to Alan Turing, who famously asked, "Can machines think?" This question led to the creation of the Turing Test, designed to assess a machine's ability to exhibit intelligent behavior.

In the early 1980s, the concept of neural networks gained prominence in computer science research. By the early 2000s, machines had begun to respond to basic cognitive queries using these networks. Search engines such as Google and platforms like Wikipedia became primary tools for retrieving information, significantly transforming access to knowledge.

With increasing internet speed and advancements in data processing, AI research accelerated. The term "Artificial Intelligence," originally coined by John McCarthy, gained renewed relevance as efforts intensified to develop machines capable of responding intelligently to human queries. A major turning point came around 2015 with the founding of OpenAI.

Two key technological breakthroughs supported this progress: the development of advanced semiconductor technologies and the integration of high-performance processing units, particularly GPUs. These innovations enabled a shift from traditional rule-based programming to pattern recognition systems powered by neural networks. With increased computational power and vast datasets, machines began to process information in ways analogous to the human brain.

Researchers such as Ilya Sutskever, along with technology leaders including Elon Musk, Sam Altman, Greg Brockman, and Dario Amodei, came together to establish OpenAI with the goal of developing Artificial General Intelligence (AGI)-a transformative, general-purpose technology comparable to electricity or the internet.

During the COVID-19 pandemic, the demand for digital communication-text, data, images, and video-grew rapidly. Advances in mobile technologies, such as Android, and high-speed internet further accelerated AI adoption. The development of Generative Pre-trained Transformers (GPT), trained on vast datasets, marked a significant leap forward. Models like GPT-1 and GPT-2 laid the foundation, while GPT-3 demonstrated unprecedented capabilities in language processing.

However, training AI models on large, unfiltered datasets introduced risks, including exposure to harmful or biased content. Addressing these concerns became a priority. Within OpenAI, differences emerged among key figures. Sutskever emphasized long-term benefits for humanity, Amodei focused on safety and alignment, while Altman prioritized rapid development and deployment.

These differences eventually led to the departure of some members. Dario Amodei went on to found Anthropic, with a strong emphasis on ethical AI and system safety. Anthropic developed models such as Claude, designed with built-in safeguards and alignment principles.

Anthropic's work includes efforts to identify and mitigate vulnerabilities in AI systems. Rather than immediately releasing powerful tools, the company has prioritized testing and safety evaluation, including systems designed to detect weaknesses in software and operating environments. This cautious approach reflects concerns about the potential misuse of autonomous AI systems.

Anthropic is in the news today primarily because of its focus on AI safety, ethical design, and the development of models capable of autonomously analyzing and securing systems. At the same time, these capabilities raise concerns: highly autonomous AI systems could pose risks if misused or if they fall into the wrong hands.

As a result, Anthropic's advancements have intensified the global debate on AI regulation, governance, and the need for safeguards. The central issue is no longer just technological progress, but how to balance innovation with responsibility in a rapidly evolving AI landscape.

Contd from page 16

AUTHOR NOTE (AI USE DISCLOSURE)

In accordance with the principles of Academic Integrity and Transparency in AI-assisted Research (Bozkurt, 2024), the author declares that this manuscript was proofread and linguistically reviewed with the assistance of DeepL and Google Gemini (versions available as of February 2026), in support of the human editorial process. All substantive intellectual work, including conceptualization, analysis, and interpretation, was carried out by the author. The author critically reviewed and validated all AI-assisted outputs to ensure academic rigor and accuracy, and took due care to identify and mitigate any potential biases. The final content and all interpretations presented in this manuscript are the sole responsibility of the author.

This column brings out briefs of: Ph.D, M.Phil Researches in Education, Economics of Education, Social, Political, Psychology aspects of education/ economics conducted in University /College departments. It also brings out briefs on researches done by Research Institutions, Industry and NGOs. This column was introduced from April-June, 2016 issue of College Post. Method of reporting the researches completed and in progress was given in that issue. Interested researchers, professors and Heads of institute are requested to send their brief accordingly. Purpose of this column is to high light the researches in education conducted in university and college departments and in any other institution / industry and NGO for the benefit of policy makers, research scholars, thinkers. Readers are welcome to encourage relevant person and institute to send briefs on research done and being done in education/ economics.

This issue brings to you brief on the following Research in Education/Economics.

TITLE OF THE THESIS

Economic Benefits of Nursing Education in Kerala
Researcher - Smitha Eapen, Guide - Issac Paul, Department- Education- Government College Teacher Education, Thiruvananthapuram, University- University of Kerala, Year of Completion 2021

SUMMARY OF SAMPLE, SCOPE OF STUDY AND KEY FINDINGS *

1. **Sample for the Study**
   - Total nurses surveyed: 1,051; responses received: 845.
   - Final sample: 845 nurses.
   - Includes nurses with qualifications from GNM to postgraduate (M.Sc.) levels.
2. **Scope of the Study**
   - Focus: Age-Education-Earnings (AEE) profiles of nurses in Kerala.
   - Based on cross-sectional survey data.
   - Covers nurses from all 14 districts of Kerala.
   - Examines:
     - Economic benefits of nursing education
     - Underemployment
     - Earnings patterns and fluctuations
3. **Calculation of Earnings**
   - Lifetime earnings estimated using cross-sectional data (not administrative records).
   - Future earnings are discounted to present value.
   - Assumptions:
     - Individual ability is constant and not factored in.
     - Educational achievement does not directly determine earnings, due to varying recruitment and pay policies in hospitals.
4. **Delimitations of the Study**
   - Only salary income considered (no other income or savings included).
   - Focus limited to three groups: GNM, B.Sc., and M.Sc. Nursing.
   - Sample includes hospitals with minimum 100 beds:
     - 35 government and 45 private hospitals.
   - "Nurses" include staff nurses and nursing tutors (Assistant Professor and above).
   - Covers only nurses educated and currently working in Kerala.
   - No data available on the state of education origin of nurses.

IN BRIEF:

The study uses a representative sample across Kerala to analyze how education influences earnings, with clearly defined assumptions and limitations to ensure focused economic analysis.

Concise Summary of Findings

1. Entry age and earnings pattern
   - Nurses generally begin earning at around 28 years.
   - Earnings consistently increase with age and experience across all categories.
2. Education and earnings
   - Higher qualifications lead to higher earnings: M.Sc. > B.Sc. > GNM.
   - Lifetime earnings are highest for M.Sc. nurses, followed by B.Sc., and lowest for GNM.
   - Differences between GNM and B.Sc. are often not significant, but M.Sc. nurses earn significantly more than both.
3. **Gender differences**
   - Female nurses earn significantly more than male nurses across most categories.
   - This pattern holds within GNM, B.Sc., M.Sc., and the overall sample.
4. **Location (Rural vs Urban)**
   - Urban nurses earn significantly more than rural nurses across all educational levels.
   - Lifetime and peak earnings are higher in urban areas.
5. **Type of employer**
   - Government hospital nurses earn substantially more than private hospital nurses.
   - This difference is strong and statistically significant across all qualification levels.
   - Lifetime earnings in government jobs are nearly double those in private hospitals.
6. **Job satisfaction**
   - Satisfied nurses earn significantly more than

dissatisfied nurses.
- This trend is consistent across all educational categories.

7. Combined effects
- The highest earnings are observed among:
  - M.Sc. nurses
  - Working in government hospitals
  - Located in urban areas
  - Who are satisfied with their jobs

8. Lifetime earnings overview
- Average lifetime earnings increase with education:
  - GNM: lowest
  - B.Sc.: moderate
  - M.Sc.: highest
- Overall average lifetime earnings are substantial, indicating strong economic returns to nursing education.

OVERALL CONCLUSION

Nursing education yields clear economic benefits. Earnings are strongly influenced by education level, employer type, location, gender, and job satisfaction, with higher qualifications and government employment providing the greatest financial advantages.

1. Summary of Reflective Evaluation (Researcher's View)
- Education matters: Higher educational qualifications lead to higher earnings.
- Type of employer matters: Earnings vary significantly between government and private hospitals.
- Experience vs breaks: Continuous service increases earnings; career breaks reduce earning capacity, sometimes more than lower qualifications.
- Mobility advantage: Degree holders (especially university graduates) can offset breaks by securing higher-paying jobs abroad.
- Low local satisfaction: Economic returns in Kerala are below expectations, with over 93% of nurses willing to work abroad.

2. Educational Implications / Suggestions

Regulation and governance
- Strict monitoring of training practices and abolition of the bond system in private hospitals.
- Establish an independent regulatory body for recruitment, pay, and service conditions.

Financing and access
- Provide financial support (interest-free loans, scholarships) as many students depend on loans.
- Increase government nursing seats to make education more affordable and competitive.

Quality and standards
- Promote international collaborations to improve training quality and global recognition.
- Introduce a common entrance test to ensure aptitude and quality intake.
- Gradually phase out GNM diploma and promote B.Sc. Nursing as the standard qualification.

Recruitment and career progression
- Base recruitment on educational qualifications rather than only entrance tests.
- Ensure performance-based promotions instead of seniority.
- Define minimum qualifications for specific nursing roles to standardize the profession.

Professional development and status
- Mandate regular in-service training and evaluation for nurses.
- Enhance roles, authority, and professional status of nurses to align with other healthcare professionals.

OVERALL CONCLUSION

The evaluation highlights that while education significantly improves earnings, structural issues-such as low pay, poor regulation, and limited career growth in Kerala-drive dissatisfaction and migration. Strengthening education quality, regulation, and employment conditions is essential to improve the profession.*

An AI assisted summary. The findings of study may sound familiar, yet its importance lies in in-depth data analysis and researcher's reflection.-Editor

WORLD'S FIRST AI UNIVERSITY

Mohamed Bin Zayed University of Artificial Intelligence (MBZUAI) is the world's first dedicated AI University, located in Masdar City, Abu Dhabi, UAE. Established to position the UAE as a global AI leader, it focuses on graduate-level research and education in cutting-edge AI fields.

MBZUAI takes inspiration from our namesake, His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE.

The University has a vital role to play in many of the UAE Government's strategic objectives, with AI identified as a critical component for future growth and prosperity. MBZUAI's own strategic vision and mission works in parallel to position Abu Dhabi as a hub for the international AI community.

Foundation

MBZUAI, founded in 2019 and licensed in 2020, began graduate programs in 2021 and launched undergraduate offerings in 2025. Named after UAE President Sheikh Mohamed bin Zayed Al Nahyan, it aligns with the UAE's National Strategy for AI 2031 to drive innovation and economic growth. The university attracts top global faculty from institutions like UC Berkeley and Carnegie Mellon, with 84 faculty members and over 200 researchers as of 2025.

Programs Offered

It provides master's and PhD degrees in machine learning, computer vision, natural language processing, robotics, and statistics & data science. New additions include a Bachelor of Science in AI (with streams in AI for Business and AI for Engineering) and a Master's in Applied AI for industry professionals. Full scholarships, stipends, and internships with tech giants make it highly competitive and attractive.

Research and Impact

MBZUAI ranks among the top 10-20 globally for AI research output, emphasizing real-world applications through collaborations and state-of-the-art facilities. Its Fall 2025 cohort reached 403 students from over 25 countries, including 115 undergraduates, with strong UAE national representation. This supports Abu Dhabi's goal to become an international AI hub.

Key and emerging areas of Research

Key research domains include Computer Vision for image/video analysis in autonomous systems and medical diagnosis; Machine Learning for algorithms in prediction and decision-making; and Natural Language Processing (NLP) for language understanding, including projects like Hindi and Arabic LLMs.

Emerging Fields

Robotics covers robot learning and applications like AI strawberry-picking; Computational Biology applies AI to biological data analysis; and Statistics & Data Science provides foundational tools for all AI efforts.

Strategic vision

The University has a vital role to play in many of the UAE Government's strategic objectives, with AI identified as a critical component for future growth and prosperity. MBZUAI's own strategic vision and mission works in parallel to position Abu Dhabi as a hub for the international AI community.

Broader themes span healthcare (e.g., fetal health, cancer), climate (e.g., weather prediction, cloud seeding), and interdisciplinary applications in sustainability, services, and manufacturing.

Ground-breaking work

University views that its ground-breaking academic and research initiatives are working on developing future solutions that will impact the world and change the way we imagine things.

Sources: World University News and AI assisted data/ information.

STUDENTS DATA DEMAND BY TRUMP ADMINISTRATION AND LEGAL ISSUES

On 3 April, United States Federal District Judge F Dennis Saylor IV issued an injunction blocking a Department of Education (DoE) demand that universities across the US submit seven years' worth of admissions and other student data, disaggregated by race and gender.

The injunction was first granted on 13 March, two days after 17 Democratic-led states attorneys general petitioned the United States District Court, District of Massachusetts, to quash Secretary of Education Linda McMahon's order for the data under a new Admissions and Consumer Transparency Supplement (ACTS) survey. McMahon's order for this data to be collected is the second demand for such extraordinary information made by the administration of President Donald J Trump in the past few months.

On 7 August 2025, in a written statement that announced the order, McMahon justified the need for including quantitative measures of applicants' and admitted students' academic achievements, such as

standardised test scores, GPAs and other applicant characteristics - information hitherto retained by institutions - by referencing the decision of the Supreme Court of the United States (SCOTUS) to overturn affirmative action three years ago in the case Students For Fair Admissions v Harvard (SFFA).

"Following the revelations of rampant racial preferencing in college admissions exposed by SFFA v Harvard, the Trump administration is now standardising reporting from colleges and universities to provide full transparency into their admissions practices,"

The granular level of the information that ACTS will capture includes recommendation letters, which could indicate extracurricular activities such as being on an athletic team or if the applicant is a cellist. Admissions officers care about such information because they "want to get a better picture of what those numbers [GPA and test scores] mean".

Speaking for the thousands of America's institutions of higher learning, Lynn Pasquerella, President of the American Association of Colleges and Universities, said: "On the procedural level, the states are arguing that the Department of Education changed reporting requirements without proper legal process, potentially violating laws like the Administrative Procedure Act.

"But the bottom line is, this isn't just about data. It's about whether the federal government can unilaterally shape how universities operate

Political neutrality

The state attorneys general filed the suit against the DoE and the Office of Management and Budget (OMB), the department that is meant to ensure that other departments' actions adhere to statute.

The attorneys general argue that McMahon's order violates the legal requirement that the Integrated Postsecondary Education System (IPEDS) data collection system (which provides the data for ACTS) must be politically "neutral"; colleges and universities must be part of IPEDS to participate in federally funded vocational and student aid programme

Additionally, the attorneys general argue that handing over this data could compromise student privacy. Further, the suit argues that the short timeline set by McMahon - 120 days to produce data going back to the 2019 and 2020 academic year - puts an undue burden on colleges and universities and is likely to result in "error-ridden" reports to the government.

The petition tells the court that both McMahon's order and Trump's executive order (issued several hours before McMahon's order), which McMahon cites as one pillar of her authority, are legally defective.

Threat to privacy

The threat to student privacy comes from the granular level of detail that the DoE is demanding. The states argue that "the level of disaggregation of the data - with data spliced across multiple categories, including race, gender, GPA, test scores, income level, and academic programme - poses a risk that information submitted by IHEs [institutions of higher education] may inadvertently reveal the identity of students, thus jeopardising IHEs' obligations to maintain student privacy."

Source: Nathan M Greenfield 02 April 2026 World University News

UNESCO has drawn a course outline for AI literacy for schools as well as higher education. Course outline for undergraduate students were published in the College Post earlier issues. A report of implementation of course outlines for school education by UNESCO was implemented in several countries. CBSE, India, has adopted these course outline and attempted to implement in CBSE affiliated schools. Recently schools have also implemented AI education even from Classes 3- 6. Some experts felt that is it too early to introduce this aspect at this early stage. According to them it will be even more difficult for senior and undergraduate students. Yet recently some of the schools have introduced computational thinking courses.

IGNOU ATTEMPTS TO BECOME 'AGENTIC UNIVERSITY'

To improve learner engagement and academic outcome, IGNOU is introducing 'AI enabled' Open Distance and Digital Education (ODDE) model from the year 2026-27. Drawing Gamification framework, IGNOU is closely working German Society for International Educational Cooperation (Fiz) to transform the skill based programme, management education and digital learning modules. It is reported that faculty members are regularly engaged in AI literacy, ethical AI education, digital pedagogy workshops and handson capacity building. IGNOU has also partnered with the British Council and international firms such as Cisco and Hewlett Packard to enhance academic -industry collaboration.

OPENAI COLLABORATION

OpenAI, the maker of ChatGPT, has partnered with multiple higher education institutes, namely IIT-Delhi, IIM Ahmedabad, AIIMS, New Delhi, Manipal Academy of Higher Education, University of Petroleum and Energy Studies by embedding AI tools, training, and research into infrastructure of schools and universities. Mr. Raghav Gupta of OpenAI is stated to be collaborating with ed-tech platforms including PhysicsWallah, upGrad, and HCL GUVI. It is stated that about 100 thousand students will benefit from these initiatives.

CREDITS FOR ON-LINE STUDIES

The UGC guidelines provide for earning of credits through online education on SWAYAM up to 40 percent of the total credit. There was an initiative to increase it further. However, Delhi University Academic Council committee has suggested recognition of credit up 30 percent. In fact, a large number of students access the SWAYAM courses and a good proportion also appear for the test and earn credit. Some of the Delhi University teachers feel it will dilute the quality. According to them physical interaction offers opportunity for expression of diversified view points, where as MOOCs based courses, being static in nature do not offer such diversification and alternative views. This is the same argument which was advanced when Distance Education programme was introduced. Online education programmes of MOOCs with visual support are quite engaging and offer possibility of interaction if offered on LMS. It can also become more dynamic if MOOCs are 'AI enabled'. There is a need to undertake studies of impact on quality of learning through 'face-to-face and online'. Such studies will help establish clarity on this burning issue.

CHANDIGARH UNIVERSITY PARTNERED WITH PERPLEXITY

Chandigarh University has become first private university to partner with Perplexity In March, 2025. Perplexity provides campus-wide access to its AI Answer engine. This integration targets students, researchers, and faculty for enhanced academic workflows. Myonlinecollege+3. The Collaboration embeds Perplexity's realtime, cited insights into daily learning to boost research efficiency and innovation. It aims to create a "smarter, more efficient learning ecosystem" by bringing AI technology with academia. Under this integration the platform will provide seamless access to AI enhanced resources across all domains, supporting precise information retrieval for course work and projects. Faculty and students can use it for quick analysis, real-world scenario application and fostering digital literacy.

It is said that the partnership enhances research capabilities, promotes innovation and equips users for an AI driven world.

PERPLEXITY RESEARCH STRENGTH

Perplexity aids ed-tech studies via "Deep Research" mode for literature review, trend analysis and gap identification. Users query specifics like "recent trends in remote learning engagement 2018-2025" to get synthesized insights with verifiable citations. It streamlines proposal development, source summarization, and hypothesis generation, making complex topics like ed-tech integration more accessible. The limitation is period i.e. 2018-2025. Prior to this may pose a challenge.

INTENT DETECTING DEVICES

By Rahul Agarwal

What are these devices

Meta launched Meta Ray-Ban Display smart glasses and the Meta Neural Band, at Meta Connect on September 17, 2025.

The Meta Ray-Ban Display is a pais of smart glasses that includes a built-in heads-up display, allowing users to see messages, navigation, live captions, and AI responses directly in their field of view. The Meta Neural Band is a lightweight wearable that detects your hand movements. Together, they allow users to control the interface without, tapping a screen, users can perform tiny finger movements - or even subtle intended motions - to control the interface, enabling actions like scrolling, selecting, or typing.

Together, these devices introduce a new paradigm: intent detection. The glasses determine what you are looking at, while the wristband interprets what you intend to do. This combination eliminates the need for traditional input devices like touchscreens or controllers, replacing them with invisible, low-effort interaction.

How these devices work

At the core of the Ray-Ban Display glasses is a miniaturized optical display system embedded inside the lens, which projects a full-color, high-resolution heads-up interface into the user's field of view. This display is paired with onboard compute, cameras, microphones, and open-ear speakers, enabling real-time functions like messaging, navigation, translation, and AI assistance without needing a smartphone. The system is designed for "glanceable computing", meaning information appears only when needed and disappears to avoid distraction.

The Meta Neural Band acts as the primary input layer. It uses advanced sensing to capture fine-grained muscle activity signals from the wrist, which are then processed by machine learning models trained on large datasets. These models translate subtle patterns - such as finger pinches, swipes, and wrist rotations - into digital commands like clicking, scrolling, or adjusting volume.

Neuroscience behind these

The wristband works using technologies like sEMG or Surface EMG. EMG (Electromyography) is a technique used to measure the electrical activity produced by muscles. When your brain sends a command, it travels to muscles through the nerves as an electrical signal.

The sEMG placed on the wristband captures that electrical signal generated during muscle contraction. Even before visible movement of finger or wrist occurs, muscles receive electrical impulses and sEMG in the wristband can detect them acting as a neural proxy. These muscle signals are noisy and spiky. AI is used to turn these noisy muscle signals into meaningful intent by learning patterns - just like speech recognition converts sound into language.

So, the wristband is not mind-reading; it is decoding intent from motor signals.

Extending it further - TouchFusion Wristband

TouchFusion is currently a research prototype wristband that combines multiple sensing technologies to turn your hand into a universal input device. The core idea is: turn a table, wall or even your leg into a trackpad or controller. It can detect finger taps, swipes and pressure. It works without a camera. For example, when you slide your finger on a table, it leads to cursor movement on screen. Or a tap leads to a click.

In terms of technology, it goes beyond muscle signals, by additionally combining IMU and bioimpedance.IMU (Inertial Measurement Unit) measures motion and orientation of an object. It tells you how something is moving and how it is positioned in space. It typically combines three types of sensors: Accelerometer (Measures linear acceleration), Gyroscope (Measures rotation) and Magnetometer (helps determine absolute orientation).

Bioimpedance refers to measurement of how electrical current flows through your body tissues. Different conditions change impedance, like finger touching a surface, skin contact area, pressure, distance between fingers, etc. It can detect when your finger touches something or which fingers are touching or how hard you're pressing.

So, when you slide your index finger. sEMG in the system detects that the index finger is moving, IMU gives the direction of movement and bioimpedance tells that the finger is touching the surface.This combination indicates that the cursor moves like a laptop trackpad

Making it more intuitive through Neuro-haptics

Neuro-haptics refers to technologies that deliver touch sensations by directly stimulating the body's sensory pathways such as skin receptors or peripheral nerves, so the brain perceives realistic, localized feedback (e.g., feeling a tap on a fingertip from stimulation at the wrist). Unlike conventional haptics (simple vibration), neuro-haptics aims for precise, meaningful touch illusions that the brain can interpret naturally.

While neuro-haptics does not directly detect intent, it plays a critical role in enhancing intent detection systems. By providing real-time tactile feedback in response to user actions, it creates a closed-loop interaction: the user initiates an action, the system responds with touch, and the brain adjusts behavior accordingly. This feedback improves motor control, accuracy, and confidence, helping users refine subtle gestures or micro-movements used in intent-based interfaces.

CONCLUSION

As computing evolves beyond screens and touch, a new paradigm is emerging - one where interaction is no longer explicit, but inferred. Non-invasive neural interfaces are redefining how we engage with technology by shifting the focus from actions to intent. Through the fusion of sensing, AI, and subtle human signals, devices are beginning to understand what we mean, not just what we do.

An Inside Story of OpenAI and Its Impact on Economy, Energy, Geopolitics and Ecology: A Review of Empire of AI: Dreams and Nightmares in Sam Altman's OpenAI, by Karen Hao, Publisher Penguin Press, New York, 2025.

Karen Hao's book provides an inside account of OpenAI, focusing on its rise, internal conflicts, and global implications. The narrative begins with the dramatic ousting-and eventual return-of Sam Altman by the board, led in part by IlyaSutskever. The episode highlights concerns about Altman's lack of transparency and sets the stage for deeper tensions between vision, governance, and control.

Hao traces OpenAI's origins as a non-profit organization, aimed at developing AI for humanity's benefit, supported by figures like Elon Musk, Greg Brockman, and Peter Thiel. However, over time, Altman's pragmatic, growth-driven approach-influenced by Silicon Valley ideas of scale, monopoly, and rapid expansion-shifted the organization toward commercialization, especially through its partnership with Microsoft under Satya Nadella.

A central theme of the book is the conflict between scientific ideals and business ambition:

" Sutskever represents a philosophical, research-driven vision of AI
" Altman embodies strategic expansion, funding, and productization
" Dario Amodei emphasizes AI safety and existential risks

These tensions led to divisions within OpenAI and eventually to the creation of rival efforts like Anthropic.

Hao also explains the technical and strategic foundations of OpenAI's success:

" The scaling of data, compute power, and resources
" Progression from GPT-1 to GPT-3, GPT-4, and beyond
" Expansion into multimodal AI (text, image, voice)
" Ambitions toward Artificial General Intelligence (AGI)

However, the book goes beyond technical achievement to critically assess the wider consequences of AI expansion, including:

" Labour exploitation (data labeling and invisible workforce)
" Environmental costs (energy, water, and infrastructure demands)
" Data extraction and surveillance capitalism
" Global inequality and geopolitical power shifts

Hao situates AI within a broader historical pattern, portraying it as a new form of "empire"-one that concentrates power and wealth while extracting resources (data, labor, energy) from less powerful regions.

The book is structured in four parts:

1. Origins - founding vision and early ideology
2. Growth - technological breakthroughs and scaling
3. Impact - societal, economic, and political consequences
4. Empire - consolidation of power and future risks

The epilogue reflects on how such an empire might eventually decline.

Overall, Hao presents OpenAI's story as both a remarkable technological journey and a cautionary tale-showing how the pursuit of innovation, scale, and dominance can conflict with ethics, transparency, and the broader public good.

- S.C. Sharma and GD Sharma

BOOKS FOR REVIEW

- *Speaking with Nature : The Origins of Indian Environmentalism* by Ramachandra Guha
- *Apostles of Development – Six Economists and the World they Made* by David C. Engerman
- *Caste-Communal Politics Nexus in Higher Education Policy* by A. Mathew

Authors and Publishers are encouraged to send their publications for review in the College Post.

- Editor

seed...

CHEST

Online Course on Critical Thinking - Foundations, Skills & Applications for – Students & Professionals

Course Code: 02, Credit Hours: 4 Credits, Course Duration: 1 Semester

Course Overview:

This course aims to develop students' critical thinking skills by encouraging logical reasoning, effective argumentation, and problem-solving. Students will learn to identify fallacies, construct sound arguments, evaluate evidence, and make well-informed decisions in academic, professional, and personal contexts.

Learning Outcomes:

By the end of the course, students will be able to:

- *Recognize the key components of critical thinking and logical reasoning.*
- *Analyse and evaluate arguments for validity, soundness, and clarity.*
- *Identify common logical fallacies and cognitive biases.*
- *Construct well-reasoned arguments and communicate them effectively.*
- *Apply critical thinking skills to solve problems and make decisions in real-world situations.*

Course Modules

Module 1: Introduction to Critical Thinking

- Unit 1: Definition and importance of critical thinking
- Unit 2: Critical thinking vs. ordinary thinking
- Unit 3: Characteristics of a critical thinker.

Module 2: Basics of Logic and Reasoning

- Unit 1: Arguments: Premises, conclusions, and structure
- Unit 2: Deductive vs. inductive reasoning
- Unit 3: Evaluating validity and soundness of arguments

Module 3: Identifying and Avoiding Fallacies

- Unit 1: Common logical fallacies: Unit 1.1: Ad hominem
  - Unit 1.2: Straw man argument
  - Unit 1.3: False dichotomy
  - Unit 1.4: Slippery slope Unit 1.5: Hasty generalization
- Unit 2: How to detect and address fallacies in arguments

Module 4: Cognitive Biases and Critical Thinking

- Unit 1: Understanding cognitive biases: Confirmation bias, anchoring, etc.
- Unit 2: The role of perception, memory, & heuristics in reasoning
- Unit 3: Techniques to mitigate biases in decision-making

Module 5: Critical Reading and Media Analysis

- Unit 1: Evaluating credibility and reliability of sources
- Unit 2: Analysing media, news, and online content for bias and manipulation
- Unit 3: Recognizing fake news and misinformation

Module 6: Argument Construction and Effective Communication

- Unit 1: Structuring arguments: Claims, evidence, and reasoning
- Unit 2: Writing and presenting arguments clearly and persuasively
- Unit 3: Debates and discussions: Techniques for effective argumentation

Module 7: Problem-Solving and Decision-Making

- Unit 1: Strategies for solving complex problems critically
- Unit 2: Decision-making frameworks
- Unit 3: Ethical reasoning and moral decision-making

Module 8: Applications of Critical Thinking

- Unit 1: Applying critical thinking in academics and research
- Unit 2: Critical thinking in professional and workplace settings
- Unit 3: Case studies: Real-world problems requiring critical thinking

Teaching Methods Online: (i) Contents on LMS (ii) Interactive sessions (iii) Group activities, debates, and role-plays (iv) Case studies and analysis (v) Assignments and presentations

Online Assessment Methods: (i) Reading of Modules: 10% (ii) Quizzes/Tests: 20% (iii) Assignments and Essays: 25% (iv) Group Debate/Presentation: 15% (v) Final Exam: 30%

IMPORTANT NOTE -
Course will be offered in collaboration with the institutions. Also, students can directly enroll for the Courses. Certificate will be provided jointly by SEED-CHEST and Collaborating Institute(s).

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Online Course on Communication Skills

A 4 Credit Course
8 MODULES COURSE WITH SUB-MODULE UNITS
DURATION: 60 HRS. 6-8 WEEKS

Average Per week self-study 8 Hrs.

and contact /test on Virtual mode 2 Hrs.

Course on Canvas Platform

Virtual Meet on Google Meet platform

Course Over View

This course helps participants develop effectivecommunication strategies for variouscontexts, improving verbal, non-verbal, writtencommunication, and skills for conflict Resolution, Negotiationtechniques, collaboration andeffectiveTeamwork.

Course Objectives

- Develop clear and concise verbal communication.
- Enhance active listening skills.
- Master non-verbal communication techniques (e.g., body language, tone).
- Improve writing skills for reports, emails, and formal documents.
- Overcome barriers to effective communication.
- Build confidence for public speaking and presentations.
- Build skills for Conflict Resolution and Negotiation
- Cultivate interpersonal skills for teamwork and leadership.

Course Modules

Module1: Introduction to Communication

- Understanding the basics of communication.
- Components: Sender, message, receiver, and feedback.
- Barriers to communication and how to overcome them.

Module2: Verbal Communication

- Speaking with clarity and confidence.
- Vocabulary building.
- Formal vs. informal communication.
- Handling difficult conversations.

Module3: Non-Verbal Communication

- Role of body language and facial expressions.
- Reading non-verbal cues.
- Using gestures effectively.

Module4: Listening Skills

- Active listening techniques.
- Empathetic listening.
- Improving concentration and retention.

Module5: Written Communication

- Email and business letter etiquette.
- Writing reports, proposals, and resumes.
- Editing and proofreading skills.

Module6: Public Speaking& Presentations

- Overcoming stage fright.
- Structuring effective presentations.
- Engaging your audience.

Module7: Conflict Resolution & Negotiation

- Dealing with conflicts constructively.
- Persuasion and negotiation techniques.

Module8: Communication in Teams

- Building rapport with colleagues.
- Collaboration and effective teamwork.

IMPORTANT NOTE -
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