

ATHARVA ROBOTICS CENTER

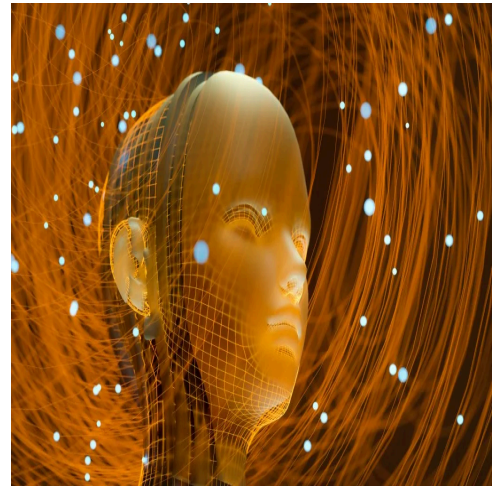
Daily News on Innovation & Technology

4th August, 2025

Scientists used an AI program to discover new laws of physics, and it worked!

By Rupendra Brahmabhatt, August 3, 2025

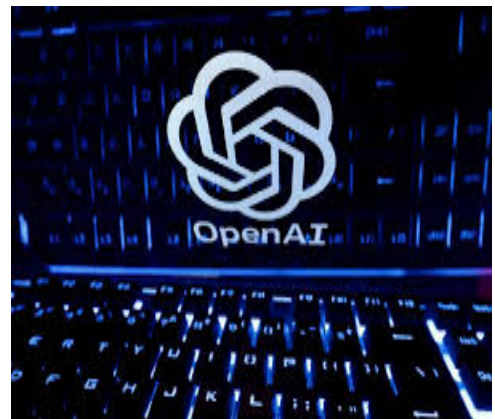
Unlike typical AI research, where a model predicts outcomes or cleans up data, researchers at Emory University in Atlanta did something unusual. They trained a neural network to discover new physics. The team achieved this unique feat by feeding their AI system experimental data from a mysterious state of matter called dusty plasma, a hot, electrically charged gas filled with tiny dust particles. The scientists then watched as the AI revealed surprisingly accurate descriptions of strange forces that were never fully understood before.



OpenAI withdraws option to make chats discoverable on Google amid privacy concerns

By Christopher McFadden, August 3, 2025

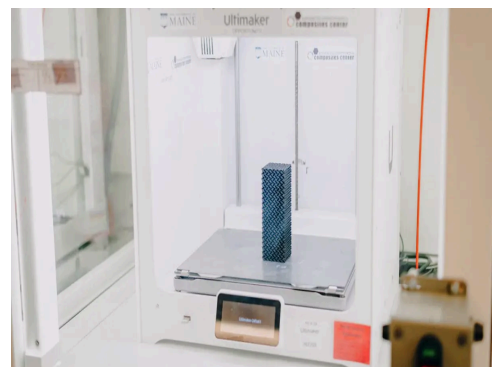
In the wake of an investigation uncovering privacy concerns, OpenAI's ChatGPT has officially removed a function of its chat-sharing feature, making shared links now private by default. The feature formerly enabled users to make specific conversations public, but it was found that the shared chats became searchable on browsers.



New research by US engineers improves strength prediction in 3D printing

By Bojan Stojkovski, August 2, 2025

The study combined advanced computer modeling with hands-on physical testing of the gyroid infill 3D printing pattern to gauge how components performed under different **stress** conditions. how components performed under different stress conditions.



[World's largest-scale brain-like computer with 2 billion neurons mimics monkey's mind](#)

By Prabhat Ranjan Mishra, August 03, 2025

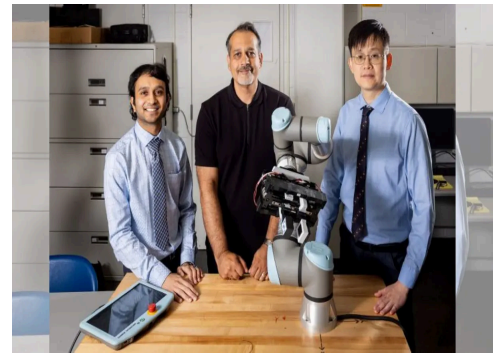
Engineers in China unveiled a new generation of brain-like computer that mimics the workings of a macaque monkey's brain. Called Darwin Monkey, the system reportedly supports over 2 billion spiking neurons and more than 100 billion synapses, with a neuron count approaching that of a macaque brain.



['Robot skin' beats human reflexes, transforms grip with fabric-powered touch](#)

By Aamir Kholam, August 1, 2025

Robots have become remarkably advanced, capable of executing complex tasks with impressive accuracy, speed, and coordination. Yet, despite these leaps, they often struggle with something fundamental like sensing and responding to touch.



News Articles

TELECOM DEPT ORDERS FRESH STUDY TO ASSESS DEMAND FOR DIRECT ALLOCATION OF WAVES FOR PRIVATE NETWORKS

Battle for the 'Captive' may Intensify Again

Telecom and tech biggies & ISPs at loggerheads over hugely monetisable use for 5G spectrum

Subscriptor Matters

New Delhi: A renewed attempt by the telecom department to ascertain demand for direct allocation of private 5G networks is set to ignite fresh battles among technology and telecom companies, say industry executives.

The fundamental disagreement revolves around control and making profits from private 5G spectrum allocations. Long hauled as discussed, lighted cannot hold use case for 5G executives said.

"Telecoms will seek to monetize the market dominantly and aim to monetize their 5G investments, while enterprises will seek direct control for operational efficiency, reliability and security," said a senior official here.

The Department of Telecommunications (DoT) recently ordered a fresh study—three years after an

initial one—to assess the demand potential for setting up private networks through spectrum given directly by DoT to companies.

The first attempt saw interest from more than three dozen companies including Infosys, Capgemini, GMR, Larsen & Toubro, Tata Communications, Tata Power, and Telenor Networks. However, the DoT later concluded that the vision ecosystem was not yet ready to support the use case.

Like in 2022, telecom companies are reporting any move to directly allocate 5G spectrum, demanding the Centre to mandate setting up private networks for telecoms themselves, or by leasing spectrum from them. Corporations and tech systems integrators, on the other hand, have been seeking direct spectrum allocation.

"During the times of spectrum allocation, the questions of spectrum and its utilization were benchmarked, keeping in mind that the licensed service provider or enterprise will be meeting the demands of private network providers of enterprise," said I. Govind Raju, former general secretary, Cellular Operators Association of India (COAI), which represents private telecom. Bharat Airtel, Reliance Jio, and Vodafone-Idea.

Raju added that direct allocation of spectrum to enterprises will result in spectrum fragmentation



and allow back door entry to enterprises in providing consumer telecom services without regulatory or financial constraints.

Tech companies are treating DoT's latest move as yet another direct bid tactic to protect spectrum. Bid-flags of telecom, while telecom say they have allocated 4G/5G spectrum to meet requirements of enterprises, while telecoms say they have allocated 4G/5G spectrum to meet requirements of enterprises.

Strandline India Forum, which also tracks firms like Facebook, Google in Cloud, Amazon, Tata Consultancy Services, Microsoft, and Intel as its members, said there are enough institutional provisions where operators leasing or direct licensing of spectrum for private networks is permitted, citing models in the US, Finland, Australia, and Denmark.

It added other nations, including China, Germany and the UK, have thousands of private networks, with India lagging far behind.

CRITICAL APPLICATIONS

ETP's research shows that there is a clear demand from the industry for private 5G, and that such capabilities, but few critical applications like industrial automation, healthcare services, and



Private 5G networks use cellular spectrum to create secure, enterprise-grade and specific industrial networks.

Source: THE ECONOMIC TIMES Newspaper, 04-08-2025
Page No 14

Link: <https://drive.google.com/file/d/14XEix5TQ6xPci6I2hao-ZXY9AfMaxiHW/view>

Urban India turns to Artificial Intelligence to manage civic woes

Soumya Chatterjee

NEW DELHI: As India is poised to be the third-largest global economy, its cities, too, have undergone a steady makeover from their colonial aesthetics to a more modern avatar dotted with taller buildings, metro rails, and flyovers. However, one thing that has remained from the bygone era is the occasional appearance of stray cattle in the bustle and bustle of busy streets, and slowing down traffic movement. Worse, they cause deadly accidents.

While the problem is ancient, the city administration in Surat has deployed a modern solution of Artificial Intelligence (AI) to counter this menace.

The civic body used an AI algorithm developed by National Institute of Technology (NIT) Suraj to analyse the live video feed from cameras installed at major junctions in the city to detect stray cattle, said Jagan Patel, director of information technology at Surat Municipal Corporation (SMC).

"The alert is not issued when cattle are accompanied by a herder. But, whenever stray cattle are spotted, an alert is generated

with a timestamp and location," he said, adding that control room officials inform the on-ground dedicated municipal staff for catching stray cattle, who respond thereon.

Based on the directives of the Gujarat High Court, SMC in 2023 rolled out a live RFID tagging programme containing details of their owners for herders before implementing a strict anti-stray cattle policy since November that year. The fine amounts increase progressively for repeat offenders, as per a state law passed in the assembly in 2022 following the same high court directives.

So far, 1545 incidents of stray cattle have been detected, with 874 lakh rupees in penalties. The same system is used by the city to detect incidents of littering and spitting. SMC commissioner Shalini Agarwal said that this technology-enabled monitoring has helped the city to achieve a high ranking in the central government's Swachh Survekshan.

Patel explained that offenders of spitting are often identified using their vehicle numbers detected through the ANPR (automatic number plate recognition) systems. He said so far, 12,120 challans for spitting and 25,362



The Smart City Mission and Safe City project has mainstreamed the use of AI-based integrated traffic management systems, across

down to 20%," the official said on anonymity. Based on the success in Fanchazhi, the system will be deployed in other zones.

The digital twin works on data from sensors in the water supply network to create a virtual replication of the water supply network. The AI/ML models process the live data of the sensors, pump-feeding stations, and analyse the household water consumption information to detect leakage and unauthorised usage.

The Pune Municipal Corporation (PMC) is also working on expanding an AI-based system to detect unauthorised or illegal constructions by using a GIS (Geographic Information System)-based system and comparing it with property tax data, an official said.

Another city in Maharashtra, Chhatrapati Sambhaji Nagar (formerly Aurangabad), has developed an AI-based 'chabot'—which works in Marathi and English—for its official website to cater inquiries raised by residents.

Fair AI, project manager at Chabot, said the IAIQ (Intelligent AI-based Question) based tool, is based on various e-governance

modules covering the issuance of birth and death certificates, department-related grievance redressal systems, and making property tax and water bill payment systems user-friendly. He said any complaint addressed to the chabot or the city's 155344 helpline is automatically sent an SMS acknowledgement stating a timeline. On the backend, the complaint is tagged to the line department official.

If the complaint is left unaddressed within two weeks, then the AI-based system flags it for the city commissioner, who reviews the unaddressed complaints regularly, AI said.

In Madhya Pradesh's Jabalpur, the city administration is using a 3D model system of the entire city area spanning 264 sq km, which is then compared with new imagery gathered through drone-based aerial surveys every five years. "Using the system, we can get accurate information on the expansion of buildings. In the last revision ending March 2024, we found that there were additional structures in more than 20% of the properties," an official source of the details said on anonymity, stating this led to an additional property tax collection of

₹20 crore.

In these cities have taken a lead in leveraging AI for different use cases, the Centre's Smart City Mission and Safe City project has mainstreamed the use of AI-based integrated traffic management systems (ITMS) and surveillance systems. The ITMS systems have AI-based applications to detect red light violations, but needless usage of two-wheeled or triple riding, wrong way driving, among others, and identify violators through ANPR. These systems have been incorporated by all tier I cities and many tier 2 cities.

Similarly, the Safe City project has cameras equipped with facial recognition technology to flag the presence of wanted suspects. New Delhi is soon expected to have an additional 5,000 AI-enabled cameras, along with 200 gunshot detection systems, from October 1 under the same project.

While the number of cameras installed increases, their maintenance and usage have come under scrutiny, even during the recent tragic incident involving the death of a Delhi University student, Souha Debbarth. It was widely reported that a series of cameras in and around the Signature

Bridge was non-functional.

In the week leading up to the incident, IIT reported how Delhi's Public Works Department (PWD) had found many of the existing cameras defective or in need of urgent repair, while some of the previously acquired cameras were yet to be installed.

Debarth's family, acting director of National Institute of Urban Affairs (NIIUA)—a think-tank of the Ministry of Housing and Urban Affairs (MoHUA) said AI and ML are vital for predictive analytics that can not only improve service delivery, but also manage disaster risks.

In that line, she said under the CIIID (city investments to improve, integrate and sustain) 2.0 programme, 11 city-level climate observatories are being set up where real-time pollution and weather data among other datasets will be used along with historical weather data to predict localised weather forecasts and disaster reduction measures. "Integration of different layers of live and historical data is imperative for this," she said. Smart city command centres also have a large amount of data that can be further utilised to gather actionable insights. Kanha added,

Source: The Hindustan Times Newspaper, 01-08-2025
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Link: https://drive.google.com/file/d/1p4mxgDPIK7NYeK9sMwlhD8J4XqvLYI_g/view

AI, But Verify: Navigating Future Of Learning

IIT-D Sets Ground Rules For Use Of Artificial Intelligence To Ensure Ethical And Effective Integration Into Teaching, Research And Exams

Megha Datta
@meghadatta

New Delhi: At a time when artificial intelligence is reshaping how we learn, teach and think, IIT Delhi took a leap in the future. Last year, IIT Delhi formed a dedicated committee to explore how generative AI tools could be ethically and effectively integrated into teaching, research and examinations. After months of collecting detailed feedback from both students and faculty, the committee released a comprehensive report covering short-term goals that remained more eye-opening trends.

A significant 80% of students reported using generative AI (GenAI) tools, with 85% of them engaging with these technologies several times a week. Around 85% of the respondents have even invested in paid subscriptions, citing the limitations and inaccuracy of free versions as a major concern.

Based on these insights, the institute released a set of guidelines. A cornerstone of these new rules is the mandatory disclosure of any content generated or assisted by GenAI tools for transparency and academic integrity.

"We mandated that academic programmes include exposure to artificial intelligence and machine learning. Most departments have already incorporated the details, ensuring that all graduates from IIT Delhi will soon possess strong proficiency in AI. This committee was formed on April 15, to guide the transition and determine the best approach for integrating AI," said Ranganathan, director of IIT Delhi.

In the long term, the committee was tasked with providing clear guidance on the use of GenAI tools while mon-

itoring advancements in the field, identifying the necessary training and support infrastructure to ensure their effective and equitable use, and recommending a governance structure and AI policies that align with the existing policy framework.

The report states, "While generative AI tools offer potential benefits—such as personalised, real-time feedback and customised learning experiences—they also raise significant concerns. These tools can produce inaccurate or misleading responses, and excessive reliance on them may undermine essential learning outcomes, particularly the development of critical thinking skills. It is imperative for educational institutions to establish clear guidelines that educate and sometimes both students and faculty."

The genesis of this initiative reflects the growing recognition that GenAI tools are no longer futuristic concepts but active collaborators in academic life. They offer undeniable benefits—personalised, real-time feedback, efficient writing assistance, and novel ways to visualise and explore complex topics. Yet, their rapid adoption has also brought challenges and concerns that the committee sought to understand first-hand by engaging with the campus community.

A survey circled among faculty and students revealed a nuanced picture of AI's current role at IIT Delhi. According to the feedback of 427 students, the most common concern was their inability to verify their learning by simplifying concepts, creating mind maps, and simulating scenarios to deepen understanding. However, they also identified significant limitations, including reliance on AI responses, difficulties with complex or con-

THINK BEFORE YOU PROMPT

STUDENTS' PERSPECTIVE

- 52% felt GenAI tools don't raise ethical concerns
- 80% have used GenAI tools
- 81% reported regular use in a week
- 10% have opted for paid subscriptions

"Some students noted that the free versions are often inaccurate"

WHAT STUDENTS USE IT FOR

- Coding: 47%
- Idea generation: 38%
- Exam and quiz preparation: 32%

LIMITATIONS IDENTIFIED BY STUDENTS

- Responses could be misleading
- Both often struggle with complex or layered prompts
- Weaknesses in problem-solving tasks requiring either mathematical and/or logical reasoning skills
- Limited abilities in code debugging
- Concerns over data privacy
- Unequal access to high-quality AI tools

HOW FACULTY SEES AI TOOLS

Respondents have engaged with GenAI tools

- 77% utilize these tools regularly, daily to several times per week
- 50% opted for paid subscriptions
- 17% expressed interest in participating in training sessions focused on the effective use of GenAI tools
- 76% reported actively using GenAI tools across various academic tasks

WHAT STUDENTS, TEACHERS AND RESEARCHERS MUST DO

Disclosure | Any content generated with GenAI tools must be fully disclosed to ensure transparency and integrity.

Ownership | Authors of content should assume full responsibility for verifying the accuracy of their work.

Data privacy | Exercise caution when inputting data or queries into GenAI tools as these inputs could potentially become publicly accessible.

WHAT INSTITUTES MUST DO

- Organize workshops in collaboration with academic units to promote fair and effective use of AI tools.
- Integrate applications and implications of AI tools into faculty development programmes and orientation workshops.
- Acquire institute-wide licence for advanced and accurate versions of tools.
- Establish plagiarism policies addressing ethical AI use, encouraging transparency and responsible engagement.

fronted participation, ahead many of these insights. Around 75% of faculty members use GenAI tools, with half doing so regularly, reflecting a broad acceptance of AI's utility in academic workflows. Faculty members harness these tools for writing assistance, summarizing research literature, preparing instructional materials, and streamlining administrative tasks, thereby enhancing productivity.

However, they also raised concerns about potential intellectual integrity, the impact on students' critical thinking development, and the challenges of fair grading when AI-generated content is involved. The lack of reliable detection tools for AI-authored work further complicates assessment fairness.

Recognizing these complexities, the committee's recommendations offer a balanced framework designed to harness AI's benefits while safeguarding academic values. At the individual level, students, researchers, and faculty are urged to disclose AI use transparently—whether in text, images, or data—ensuring personal identifiable information is not shared. They must take full responsibility for verifying and fact-checking AI-generated content, ensuring it is original and free from plagiarism. Users are also advised to protect privacy by avoiding sensitive information in AI tools.

For the institution, the committee recommends regular workshops developed in collaboration with academic units to educate and orient both students and faculty on ethical, responsible, and effective AI use. Faculty development programmes should include dedicated modules on AI applications and impli-

ment. Additionally, the institute is encouraged to secure campus-wide licences for premium AI tools, ensuring equitable access and leveling the playing field for all departments and users.

Specific guidance for academic units stresses the need to embed AI education into core curricula, including professional ethics and domain-specific GenAI applications. Learning outcomes—both at the programme and course level—should be redesigned to reflect AI's transformative impact, emphasising skills like critical thinking, original analysis and knowledge application beyond AI's reach. A curated

TIMES Special

and regularly updated resource compendium on ethical and constructive AI use should be developed to support students and faculty alike.

Acknowledging that outright bans on AI use are impractical, the committee adds that plagiarism policies be revised to explicitly address these tools. These policies should encourage transparency and responsible use, promote unbiased behaviour, such as submitting AI-generated work without meaningful personal input, and reward honest engagement with AI technologies. Faculty members are also urged to review assessment outcomes where AI tools are involved, to refine assignments, identify academic dishonesty and raise awareness of AI's role in education.

The path forward involves not only adapting to technology but also proactively shaping the future—ensuring that AI enhances the heart of learning and discovery.

Source: Financial Express Newspaper, 04-08-2025
Page No 04

Link: <https://drive.google.com/file/d/12xYGGn0gyxcrqulaCaV-u3WJSmzhuhd/view>



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