Synthetic Data: Protecting Privacy in Medical Research

In an increasingly connected world, ensuring data privacy has become one of the biggest challenges in healthcare. Synthetic data, artificially generated datasets that mimic real-world patient information, is emerging as a game-changing solution for privacy concerns.

Researchers and hospitals are leveraging synthetic data to train AI models without exposing sensitive health information. These datasets retain statistical patterns but do not contain real patient records, making them a safe alternative for data sharing and collaborative studies.

This technology allows medical professionals to develop better diagnostic tools, treatment plans, and predictive models while adhering to privacy regulations. It is particularly valuable for research involving rare diseases, where real-world data might be limited.

By balancing data accessibility with security, synthetic data is poised to revolutionize medical research and global health collaboration.

KAVI SAMMELAN

PARTH RAUT FROM TE COMPS WON IST PRIZE IN VCET MARATHI KAVI SAMMELAN 2025

PARTH RAUT FROM TE COMPS WON IST PRIZE IN VCET HINDI KAVI SAMMELAN 2025

SEJAL SAWANT FROM TE COMPS WON 2ND PRIZE IN VCET MARATHI KAVI SAMMELAN 2025

EVENTS

SOHAN PANDERE, AKYA RAUL, SUMIT MALI FROM TE COMPS AND SOHAN SAWANT FROM SE COMPS WON FIRST PRIZE AT SDYC 2025

JAIRAM JAIN AND JAY HIRE FROM TE COMPS ALONG WITH TEAM ANNAYA HAS SECURED IST PLACE IN INVILDER COMPETITION

TECHNIGON WORLD CUP 1.0

JAY HIRE, JAIRAM JAIN, PRATHAMESH PANDEY, BHAIRAVI MALIK, NIKHIL SOLANKI, SOHAN SAWANT, YOLEGAA PATKARE, MAHESH PATIL, OM BHAKALE SECURED 3RD PLACE IN THE FASTEST LINE FOLLOWING COMPETITION AT THE WMC – TECHNIGON 9.0

OSCILLATION

VEDANT KALE, BHAIRAVI MALIK, JAY HIRE AND NIHID LAD FROM TE COMPS 2 SECURED IST PLACE IN OSCILLATIONS 2025 IN TRACK-A

RITESH BHARAT, HARSH DUBEY, VISHAL CHAUHAN A PUROJIT CHOUDHARY FROM SE COMPS WON FIRST PRIZE IN OSCILLATIONS 2025 TRACK A

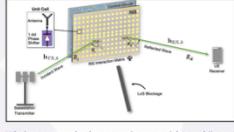ATHARVA CHAVAN, GARG BETAWADEKAR, JYOTI PATEL AND AAKANSHA CHAUDHARI FROM TE COMPS WON IST PRIZE IN OSCILLATION 2025

SHAKTI SHIRSAGO, FURVA PATIL, MEHRISH SHAIKH FROM SE-2 COMPS SECURED RUNNER-UP IN TRACK-4 OSCILLATION 2025.

Reconfigurable Intelligent Surfaces: The Future of Wireless Communication

Wireless communication networks are evolving rapidly, and reconfigurable intelligent surfaces (RIS) are driving this change. These smart surfaces can control electromagnetic waves to boost signal strength, coverage, and energy efficiency, making wireless networks more robust and reliable.

By embedding RIS into walls, ceilings, and other surfaces, everyday structures can actively participate in wireless communication. This reduces interference, improves connectivity in crowded urban areas, and allows networks to dynamically manage signal propagation, optimizing resources while lowering energy consumption.

As demand for faster, more reliable internet grows—with the rise of smart cities, IoT devices, and virtual reality—RIS technology paves the way for communication systems that seamlessly integrate into our environment, enhancing accessibility and overall network performance.

VIDYAVARDHINI'S COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER ENGINEERING

Articles submitted by

Sneha Sankpal
Shruti Shendge
Aakanksha Ratate
Kalyani Rane
Manashree Vaidya
Sharvari Patil
Alisha Kirtikar

BYTE WALL

TECHNICAL EVENTS

MEETA SOLANKI, LAVANYA SINGH, SHARVANI TATHE WON PAPER-A-THON EVENT IN THE DOMAIN ARTIFICIAL INFRASTRUCTURE AND GREEN TECHNOLOGIES

TARA KOYALE, SMIT KADVE AND RIDHHI CHURI FROM COMPS TE WON PAPER-A-THON EVENT IN THE DOMAIN CYBERSECURITY, BLOCKCHAIN APPLICATION AND DIGITAL PRIVACY

ADVAIT DORAVE, YAGESH DEVHUNKAR, AND OM CHAUHAN FROM TE COMPS-1 HAVE SECURED IST POSITION AT INGENIUS PROJECT SHOWCASE

SHREEYANSH SINGH & KEShAV SUTHAR FROM TE 3 WON PIXELSLASH MERATHON 1.0 CONDUCTED BY THAKUR COLLEGE OF ENGINEERING AND TECHNOLOGY

VIDYAVARDHINI'S COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER ENGINEERING

Faculty Advisor
Mr. Vikrant A. Agaskar

TE Members
Aakanksha Ratate
Sneha Sankpal
Kalyani Rane
Shruti Shendge
Sharvari Patil
Alisha Kirtikar
Manashree Vaidya

BE Members
Dhruv Save
Arya Raul
Atharva Chavan
Gargi Betawadekar

QuantumScape's Solid State Battery: a new era for electric vehicle

In 2025, QuantumScape, a leader in battery innovation, achieved a breakthrough with its solid-state battery, tested in Ducati's V2S, prototype motorcycle and showcased at the IAA Mobility Show. By replacing liquid electrolytes with solid material, the battery offers higher energy density, enhanced safety, reduced weight, and superior thermal stability—key advantages for electric motorcycles, cars, and aerospace applications. Along with better performance, the design enables faster charging, minimizing downtime and making EVs more practical for everyday use. This advancement promises greater convenience for consumers while ensuring power and reliability remain intact. Experts see it as a crucial step toward a future led by electric vehicles, with QuantumScape driving innovation across the automotive sector. Its partnerships highlight the company's role in accelerating the shift to sustainable, efficient, and high-performance energy solutions. By redefining how mobility is powered, QuantumScape is shaping the future of transportation worldwide.

Meta's "Celeste" Smart Glasses: A Leap into AR Wearables

Meta Platforms has launched "Celeste," its first consumer-ready smart glasses, marking a major step into augmented reality (AR). Announced by CEO Mark Zuckerberg at the annual Connect event, Celeste is designed for a premium market and aims to bring advanced AR features into everyday life.

The glasses feature a built-in digital display and AI-driven functions that provide real-time information and intelligent assistance, blending digital interactions smoothly with the physical world. They also come with wristband-enabled controls, offering users a more natural and intuitive way to navigate AR experiences compared to traditional methods.

Meta is also creating a wider developer ecosystem, allowing creators to build new applications and expand the platform. By combining sleek design, powerful AI, and open developer access, Celeste is more than just a gadget—it's a step toward redefining how people communicate, learn, and work, making AR a practical part of daily life.

Google's Veo 3: AI Powered 4K Video Creation

Launched in May 2025, Veo 3 is Google's advanced AI-powered tool revolutionizing video production by generating 4K high-resolution videos with synchronized audio, including dialogue, background sounds, and effects. It is designed for creators, advertisers, and educators who want to produce professional-quality content quickly and efficiently. Powered by deep learning algorithms, Veo 3 analyzes scene composition, soundscapes, and human interactions to deliver realistic results. Users can provide text descriptions, images, or outlines, and the AI generates complete video scenes without expensive equipment or complex editing. This accessibility makes video creation easier for everyone, from filmmakers to trainers and virtual environment developers. A standout feature is its ability to create natural speech patterns and spatial sound effects, offering immersive storytelling experiences. With applications across entertainment, education, training, and virtual collaboration, Veo 3 empowers creators to bring ideas to life while shaping the future of media production worldwide.

EXTRA CURRICULAR

MS. PALAK CHURI WON GOLD MEDAL AT ALL INDIA UNIVERSITY NATIONALS KALLAROHAN TOURNAMENT 2025 ORGANIZED AT BHOPAL

TANVI PATIL FROM SE COMPS HAS WON FIRST PLACE IN CARROM SINGLES AT UDAAN 2025 HELD ON SHANKAR NARAYAN COLLEGE

DHRUV SAVE, VINAYAK KINGE WERE RUNNERS UP AT SUMMIT NATIONAL LEVEL KABADDI TOURNAMENT AT NIT RPV

SARTH MAHESH SUTAR FROM SE COMP HAS WON 3RD PRIZE IN NATIONAL LEVEL ONLINE QUIZ COMPETITION ORGANIZED BY DEPT.OF MATHEMATICS

CODE-O-FIESTA

MOHAMMAD ABBAS SULEMAN, OMFAHEEM KHANDARE, AND KASHYAP KULAI FROM TE COMPS 2 SECURED IST POSITION AT CODE-O-FIESTA 2025 (IOT & SMART SYSTEMS DOMAIN)

ADVAIT DORAVE, YAGESH DEVRUHKAR AND OM CHAUHAN FROM SE COMPS 1 SECURED IST POSITION AT CODE-O-FIESTA 2025(AI DOMAIN)

ASHISH MANE AND VATSAL NAKASIYA FROM BE COMPS 1 SECURED THE RUNNER-UP POSITION AT CODE-O-FIESTA.

VNPS

ARYA RAUL, KASHIF SHUNDA, DEEPAK VISHWAKARMA, DEVANSH SAWANT FROM TE COMPS 2 SECURED IST PRIZE IN TRACK 4 VNPS 2025

RAMDON P. PATHAN, YASH PATIL, DISHA RAGHANI & SHRUTI PATIL FROM TE 2 COMPS SECURED IST PRIZE IN VNPS 2025

ABHISHEK GUPTA, ATHARVA KORYELKAR, SIDDHESH GAMLI AND ALIN GUPTA FROM TE COMPS WON IST PLACE IN IN TRACK 4 VNPS 2025

VATSAL NAKASIYA, ASHISH MANE & SMIT MHATRE FROM TE COMPS HAS SECURED IST RUNNER UP POSITION AT TRACK 4 VNPS 2025

Xpeng's P7: The Future of AI Powered Mobility

At the 2025 IAA Mobility Show, Chinese electric vehicle maker Xpeng unveiled its new P7+ electric car, packed with cutting-edge AI features. The car includes autonomous driving algorithms, predictive navigation systems, and ultra-fast charging, making it one of the most advanced vehicles today.

The P7+ uses real-time data to adjust to changing road conditions, enhancing safety and comfort. Its AI can anticipate traffic patterns, control energy use, and optimize routes, helping drivers save time and battery power.

In addition, Xpeng introduced its vision for the future of transport with the Land Aircraft Carrier, a flying vehicle concept designed to overcome ground traffic problems and open up new possibilities in 3D mobility.

By combining smart systems and sustainable energy, the P7+ represents the next step in transforming how we travel, offering a glimpse into a future where vehicles are not just electric but intelligent and adaptive.