Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

Accredited by NAAC with the Highest Grade A++

Recognised as CATEGORY-1 DEEMED TO BE UNIVERSITY by the UGC University Grants Commission

School of Computing

MAGAZINE ENSIGHTBYTES

Department of Computer Science & Engineering

VISION AND MISSION

Vision

To produce intellectual graduates who could contribute significantly in the analysis, design, development, operation and maintenance of complex software systems for meeting the ever changing requirements of service systems and to compete globally towards professional excellence.

Mission

M1: Design curricula for imparting training in adapting newer computing methods and technologies for providing effective and efficient solutions to the existing / new problems.

M2: Emphasizing in-depth knowledge of the subjects by employing Information and Communication Technology (ICT) based pedagogy methods.

M3: Creating a conducive research environment for making technological innovations by the faculty and students.

M4: Providing leadership skills and professional ethics thereby making a prolific career in academics and industry.

PROGRAM EDUCATIONAL OBJECTIVES

PEO1: The graduates of B.Tech Computer Science and Engineering will be able to formulate, solve and analyze Computer Science and Engineering problems using necessary mathematical, Scientific and engineering fundamentals.

PEO2: The graduates of B.Tech Computer Science and Engineering will be able to demonstrate the impact of cutting-edge technologies to accomplish social and professional responsibilities.

PEO3: The graduates of B.Tech Computer Science and Engineering will be able todemonstrate critical thinking, communication, teamwork, leadership skills and ethical behavior necessary to function productively and professionally.

PEO4: The graduates of B.Tech Computer Science and Engineering will be able to pursue higher education at reputed institution in India and abroad, work in product development companies and engage in lifelong learning.

INSTITUTION HEADSHIPS

Col. Prof. Vel. Dr. R. Rangarajan
B.E. (Elec), B.E. (Mech), M.S. (Auto), D.Sc.,
Founder President & Chancellor

Dr. Sagunthala Rangarajan
MBBS
Foundress President

Mrs. Rangarajan Mahalakshmi Kishore
B.Tech, M.Tech, MBA(UK),
Chairperson & Managing Trustee

Prof. Dr. Rajat Gupta
Vice-Chancellor

Dr. S P. Chokkalingam
M.Tech, Ph.D
Professor
Dean - School of Computing

MAGAZINE ENSIGHTBYTES

Inaugural Function

The inauguration of Vel Secure Cyber Club is scheduled for January 31, 2025, at Learning Space-2, Block-33. The event, hosted by the School of Computing's Cyber Security department, will feature Mr. Sankar raj Subramanian as the chief guest. It aims to provide a collaborative platform for cybersecurity enthusiasts to engage in hands-on training, competitions, and expert discussions, enhancing their skills in tackling real-world cyber challenges.

Industrial Visits

On January 31, 2025, an industrial visit to the Centre for Development of Advanced Computing (C-DAC) is scheduled. It will take place at C-DAC in TIDEL Park, Tharamani, Chennai, starting at 8:30 AM. This visit offers an opportunity to explore the premier research and development organization under the Ministry of Electronics & Information Technology, renowned for its advancements in IT, electronics, and related fields.

The CSE Department organized an educational visit to ISRO's SDSC SHAR for 119 students and faculty on February 5, 2024. They explored launch facilities and mission control, gaining insights from ISRO experts on space technology and its applications, enhancing their academic interests in aerospace engineering. The department thanked ISRO for this invaluable learning experience.

MOOCs

Academic Year	Registered Count	Certified	Successfully completed	Elite	Elite+Silver	Elite+Gold
Summer 24-25	1957	1830	914	701	142	32
Winter 24-25	3509	2297	1044	921	282	50

TECH PAGE

APPLE VISION PRO

The Future of Spatial Computing

Introduction

Launched in early 2024, Apple's Vision Pro redefines mixed reality with its "spatial computing" approach. Combining high-resolution VR with advanced AR overlays, it's designed for productivity, entertainment, and immersive experiences.

Key Features

- 4K Micro-OLED displays per eye for stunning clarity.
- Eye & hand tracking for intuitive control (no controllers needed).
- M2 & R1 chips for seamless performance.
- macOS & iOS integration—use virtual screens for work.

Real-World Applications

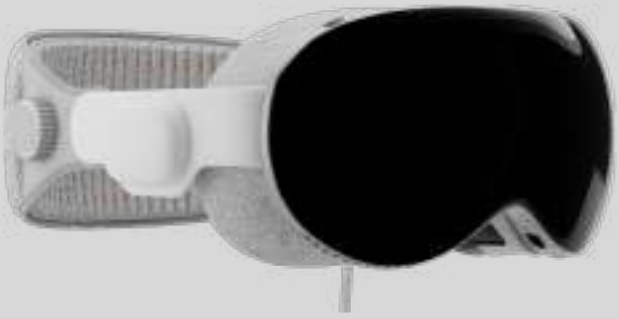
✅ Remote Work: Virtual offices with life-sized avatars for meetings.
✅ Entertainment: 3D movies with immersive spatial audio.
✅ Healthcare: Surgeons using AR overlays for real-time data during operations.

Challenges & Criticisms

⚠️ Price Barrier: At $3,499, it's far from mainstream adoption.
⚠️ Battery Life: Only 2 hours on a single charge (with an external pack).
⚠️ Social Acceptance: Wearing a headset in public remains awkward.

Future Outlook

Apple plans a cheaper non-Pro model by 2025. Developers are building spatial apps—imagine 3D design tools or virtual tourism. If Apple succeeds, this could replace multiple devices (monitors, tablets, TVs).



MAGAZINE ENSIGHTBYTES

Golu Celebrations:

The School of Computing at Vel Tech University recently hosted a grand Golu Pooja Celebration on 10th October 2024, bringing together students, faculty, and staff to celebrate the rich cultural heritage of Navaratri. The highlight of the event was the meticulously curated Golu display, showcasing a vibrant arrangement of traditional dolls and figurines. The display creatively combined traditional themes with modern, tech-inspired concepts, reflecting the innovative spirit of the School of Computing. The celebration began with an auspicious pooja ceremony, invoking blessings for knowledge and prosperity. The atmosphere was enlivened by a series of cultural performances, including classical dance, music, and storytelling, all of which captivated the audience and added to the festive spirit.

TANTARZ'2025

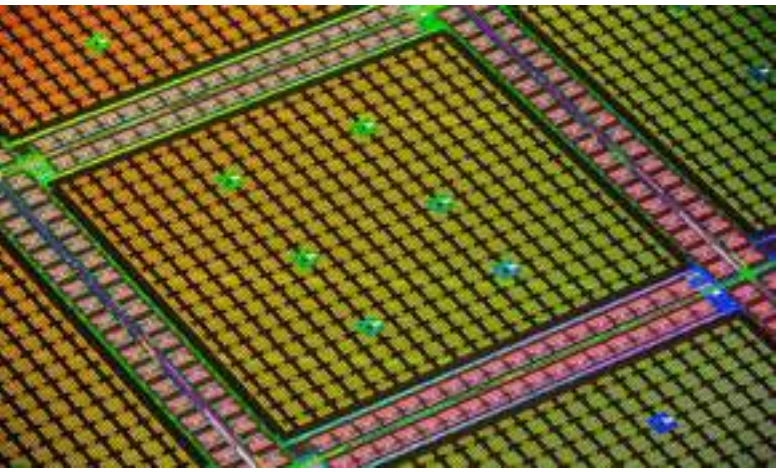
On March 7, 2025, Vel Tech Convocation Hall will host the Technical Festival TANTARZ'2025, from 09:00 AM to 04:00 PM. Organized by the Department of CSE - SoC, this festival will serve as a platform for exploring and showcasing cutting-edgetechnological, engineering, and innovative developments.

Christmas & New Year Celebrations

The School of Computing at Vel Tech University brought the festive spirit alive with a vibrant Christmas and New Year Celebration on 12th December 2024. The event was a perfect blend of joy, togetherness, and creativity, setting the tone for the upcoming holiday season. The celebration began with a warm welcome, followed by delightful performances by students and faculty, including carols, dance, and skits that captured the essence of Christmas cheer. The highlight of the event was a beautifully decorated Christmas tree and an enchanting Santa Claus appearance, spreading smiles and distributing goodies to everyone. Adding to the festive vibe, the event also featured a New Year countdown segment, where attendees reflected on the accomplishments of the year gone by and shared aspirations for the year ahead.

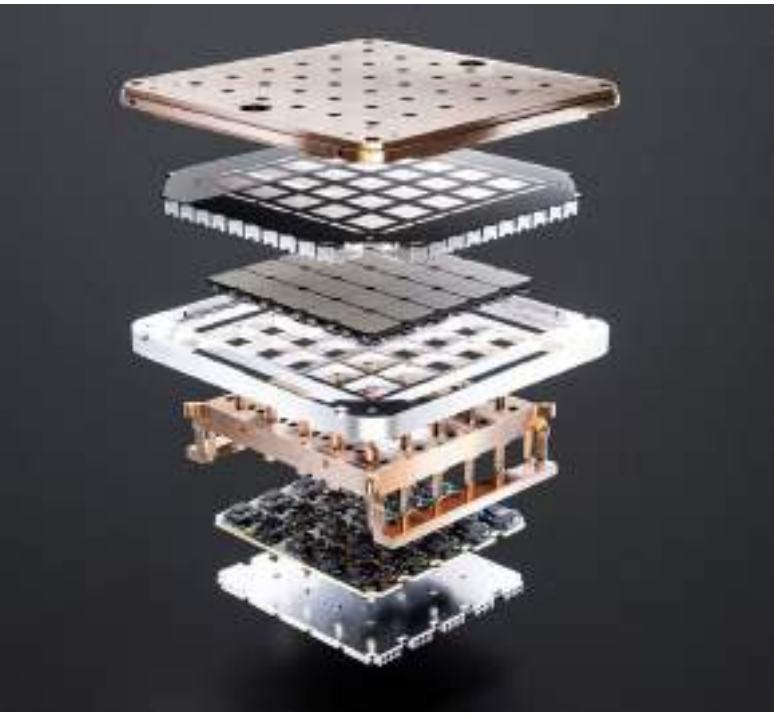
TESLA OPTIMUS GEN 2

The Humanoid Robot That Learns Like a Human



Introduction

Tesla's Optimus Gen 2, unveiled in 2024, is a mass-produced humanoid robot designed for household chores, factory work, and even elder care. Unlike rigid industrial robots, Optimus uses AI training to adapt to new tasks.



Key Features & Innovations

- Improved Dexterity: 11-DoF (Degrees of Freedom) hands can handle delicate objects like eggs.
- Tesla AI Training: Learns from human demonstrations (like OpenAI's robotics models).
- Cost Target: Elon Musk aims for under $20,000—cheaper than a car.

Real-World Applications

✅ Manufacturing: Automating repetitive tasks in Tesla factories.
✅ Healthcare: Assisting nurses with patient lifting.
✅ Home Use: Cooking, cleaning, and even walking pets.

Challenges & Criticisms

⚠️ Safety Concerns: Can it handle unpredictable environments?
⚠️ Job Displacement: Will millions of workers be replaced?
⚠️ Regulation: Governments may restrict AI-powered robots.
Future Outlook
Tesla plans to deploy thousands in factories by 2025. If successful, Optimus could become as common as household appliances.

S.No.	Company	Count
1	Zoho (Internship)	3
2	Mu Sigma	14
3	CISCO	1
4	Infosys	1
5	ADP India	5
6	Trane Technologies	1
7	Sasken Technologies	1
8	Pascalcase	6
9	Amadeus Labs	1
10	Micromax	1
11	o2h Technology	1
12	Infinite Computer Solutions	10
13	HCL	15
14	Cognizant	1
15	Ignitarium	2
16	BNP Paribas	6
17	Aganitha (Off Campus)	1
18	RemitBee	1
19	W3Global	1
20	Face Prep	18
21	HashedIn Technologies	2
22	CGI	1
23	Movate	1
24	UST	2
25	Deloitte	3
26	OpenText	3
27	(TCS) Digital	10
28	(TCS) Ninja	120
29	Accenture	46
30	ADP India	9
31	Artech Infosystems	5
32	AtoS	14
33	BNP Paribas	6
34	BNY Mellon	3
35	Capgemini	57
36	CGI	2
37	CISCO	1
38	Cognizant	1
39	Concentrix	29
40	CTS (Gen C Pro)	1
41	CTS (Gen C)	47
42	CTS (GenC Next Select)	1
43	CTS (GenC Select)	6
44	Dellner	2
45	Deloitte	3

GPT-5

OpenAI's Step Toward Artificial General Intelligence (AGI)

Introduction

GPT-5, expected in late 2024, is OpenAI's most powerful AI yet—capable of near-human reasoning, long-context understanding, and multimodal processing (text, images, audio, and video).

Key Features & Innovations

- 1M+ Token Context: Can remember entire books in a single session.
- Real-Time Learning: Adapts to user feedback without retraining.
- Multimodal Abilities: Generate code, video scripts, and 3D models from text prompts.

Real-World Applications

✅ Education: Personalized AI tutors for students.
✅ Medicine: Diagnosing diseases from doctor-patient conversations.
✅ Creative Work: Writing scripts, composing music, and designing games.

Challenges & Criticisms

⚠️ Misinformation Risks: Could generate ultra-realistic fake news.
⚠️ Job Disruption: Threatens writers, programmers, and analysts.
⚠️ Regulation: Governments may enforce strict AI controls.

Future Outlook

GPT-5 could lead to AI assistants replacing search engines. OpenAI is also working on AI safety measures to prevent misuse.

Placement Cont....

46	EPIKInDiFi	2
47	Face Prep	16
48	Genpact	28
49	HashedIn Technologies	2
50	HCL	30
51	Hexaware	3
52	Human Managed (Off Campus)	1
53	Ignitarium	2
54	Infinite Computer Solutions	10
55	Infosys	24
56	KAAR	1
57	Kaar Technologies	2
58	Kesh Tech (OFF CAMPUS)	1
59	L&T Technology Services	13
60	LTIMindtree	44
61	WNS	2

TRANSPARENT MICROLED

SAMSUNG'S TRANSPARENT MICROLED: THE FUTURE OF AUGMENTED REALITY DISPLAYS

INTRODUCTION

Samsung's transparent MicroLED, showcased in 2024, turns any glass surface into a high-resolution screen. Unlike OLED, it's brighter, more durable, and energy-efficient.

Key Features & Innovations

- 4K Resolution: Crystal-clear images even in daylight.
- Adjustable Transparency: From fully opaque to 70% see-through.
- Modular Design: Combine panels for massive video walls.

Real-World Applications

✅ Retail: Store windows that display interactive ads.
✅ Smart Homes: Mirrors that show weather & news.
✅ Automotive: AR windshields with navigation overlays.

Challenges & Criticisms

⚠️ High Cost: Likely $10,000+ for consumer models.
⚠️ Limited Content: Needs more AR-optimized media.

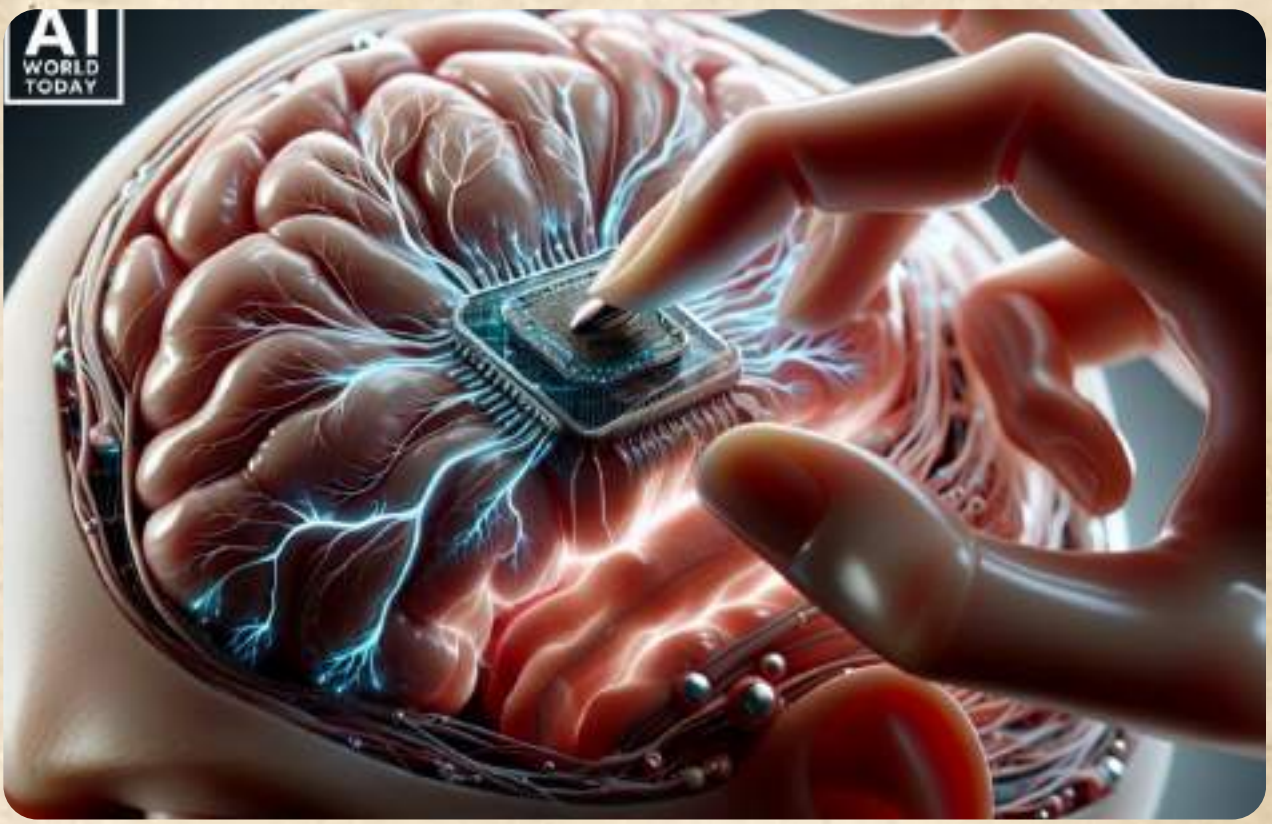
Future Outlook

By 2026, expect **affordable versions** in cars and smart homes.

Placement Cont....

Neuralink

Neuralink's First Human Brain Implant: Merging Mind and Machine



Breakthrough Overview

In 2024, Neuralink successfully implanted its N1 brain-chip in a human patient, marking a historic leap in brain-computer interfaces (BCIs). The device enables direct neural control of digital devices, initially targeting medical applications.

Technical Specifications

- 1024 Electrode Threads: Ultra-thin probes read/write neural signals.
- Bluetooth 5.2 Connectivity: Transmits data wirelessly to devices.
- Robotic Surgery: Precision insertion avoids blood vessels.

Applications

- Medical: Restores mobility for paralysis patients (e.g., controlling wheelchairs via thought).
- Military: DARPA explores mind-controlled drones.
- Future Consumer Use: Potential for memory augmentation or direct AI interaction.

Challenges

- Safety Risks: Brain inflammation, hacking vulnerabilities.
- Ethics: Privacy concerns over brain data ownership.

Future Roadmap

Neuralink aims for FDA approval for mass deployment by 2026, with a consumer version targeting gamers and professionals.

HIGHER STUDIES

No.	Name	VTU No.	Program	Country
1	Katra Druva Kumar	VTU16815	MSc Big Data Mgmt & Analytics	Ireland
2	Mithinti Manikanta Guptha	VTU17146	MS CS	USA
3	Pasupeleti Esha	VTU16704	MS Data Science	USA
4	Yedla Praveen	VTU17901	MS Computer & Info Sci	USA
5	Sudanagunta Venkateswarlu	VTU12319	MS CS	USA
6	Mandapati Vamsi Krishna	VTU16968	MSc AI	UK
7	Palleboyina Thulasi Chand	VTU17292	MS Data Science	USA
8	Allika Manikanta	VTU18425	MSc Cybersecurity	UK
9	Patel Raghunath Reddy	VTU12581	MS Computer & Info Sci	USA
10	Prantha Chandra Sarkar	VTU18709	Master's Data Science	Australia
11	Cherukuri Hari Krishna	VTU16892	MS CS	USA
12	Mudragada Ravikiran	VTU17052	MS CS	USA
13	Akula Venkata Himaja Reddy	VTU18148	MSc AI	Taiwan
14	Penikalapati Sainath Chowdary	VTU18205	MS CS	USA
15	Varikuntla Pavan Kalyan	VTU18397	Master's CS	UK
16	Turpunati Praveen	VTU18413	MSc Cybersecurity	UK
17	Poovendhan Kiddo	VTU12238	MSc Advanced CS	UK
18	Kaluva Manikanta	VTU21624	MS CS	USA
19	Chilukuri Sai Mani Krishna	VTU17573	MS Data Science	USA
20	Kota Manish	VTU17731	MS CS	USA

IBM Condor

IBM CONDOR: THE 1,000+ QUBIT QUANTUM COMPUTER

What's Next in Quantum is quantum-centric supercomputing

Breakthrough Overview

IBM's Condor processor (2024) is the first utility-scale quantum computer, surpassing 1,000 qubits. It leverages error mitigation techniques to solve real-world problems.

Technical Specifications

- 1,121 Superconducting Qubits: Arranged in a hexagonal lattice for stability.
- Quantum Runtime 2.0: Reduces noise via AI-driven error correction.

Applications

- Drug Discovery: Simulates molecular interactions for new cancer treatments.
- Climate Modeling: Optimizes carbon capture materials.
- Finance: Runs risk analysis 100x faster than classical computers.

Challenges

- Error Rates: Still requires hybrid classical-quantum systems.
- Cost: $10M+ per unit, limiting access to corporations/governments.

Future Outlook

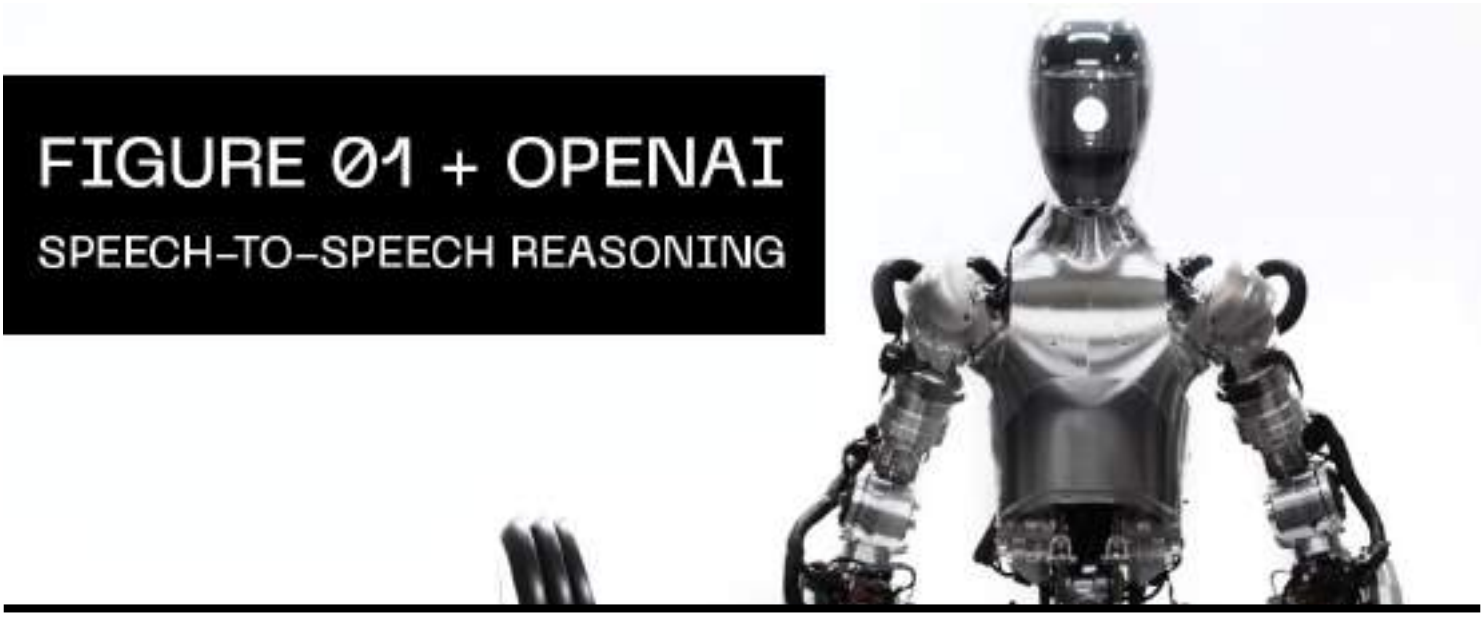
IBM plans modular quantum systems by 2026, aiming for fault-tolerant quantum supremacy.

HIGHER STUDIES Cont...

20	Kota Manish	VTU17731	MS CS	USA
21	Nalluri Karthik	VTU15337	Master's CS	USA
22	Nathi Vinay	VTU17779	MS CS	USA
23	Varshith Murakonda	VTU17026	MSc AI	USA
24	Valluru Mahesh Kumar	VTU18436	MSc AI	USA
25	G. Teja	VTU17519	MS Applied CS	USA
26	B. Lakshmi Teja	VTU17487	MS Computer & Info Sci	USA
27	Uppalapati Suryaprakash	VTU12406	MS CS	USA
28	Gajjala Chandana	VTU18443	MS Data Science	USA
29	Adurti Revanth Kaashyap	VTU18406	MS CS	USA
30	Uday Kocherla	VTU17359	Master's CS	USA
31	Thupiri Chanikya	VTU16973	Master's CS	USA
32	Upputuri Lakshmi Pujitha	VTU16926	MS Applied CS	USA
33	Durga Sai Sri Ramireddy	VTU17550	Master's Cybersecurity	USA
34	Rayapudi Trinadh Chowdary	VTU17210	MS ITPM	USA
35	Kasu Venkata Nagendra Reddy	VTU16745	MS Computer & Info Sci	USA
36	Mannem Karthik	VTU16969	MS CS	USA
37	Gadupudi Jaya Prakash	VTU17411	MS CS	USA
38	Shaik Sazid	VTU18156	MSc Data Science & Analytics	UK
39	Danaboina Eswar Surya	VTU17073	MS Computer & Info Sci	USA
40	A. Hari Vara Prasad	VTU17077	MS CS	USA

FIGURE 01:

THE AI ROBOT REVOLUTIONIZING LABOR



Breakthrough Overview

Figure 01, deployed in 2024, is an autonomous humanoid robot designed for warehouse and manufacturing tasks. It learns via imitation learning from human workers.

Technical Specifications

- 5-Fingered Hands: Lifts 50 lbs with precision.
- End-to-End AI: Processes vision, language, and motion in real time.

Applications

- Logistics: Loading/unloading trucks at BMW factories.
- Retail: Stocking shelves at Walmart.
- Space: NASA tests for lunar base construction.

Challenges

- Safety: Avoiding collisions in dynamic environments.
- Public Perception: Fear of job displacement.

Future Outlook

Figure AI plans 10,000+ units deployed by 2027, reducing labor costs by 30%.

HIGHER STUDIES Cont...

41	G. Sai Priya	VTU17498	MS Data Science	USA
42	G. Thoshan Reddy	VTU11994	MS CS	USA
43	Lottipittala Achyuth Kumar	VTU17772	Master's	USA
44	Dommaraju Lahari	VTU17113	MS CS	USA
45	Y. Hemanth Eswar Kumar	VTU17591	MSc CS (Placement Year)	UK
46	Ravuri Ganesh	VTU12057	MS CS	USA
47	Dushyanta Katta	VTU16927	MS Cybersecurity	USA
48	Kudumula Venkata Bharath Chakravarthi	VTU18227	MS Data Science	USA
49	Ravi Surya Anantha Rishwanth Patthipati	VTU17758	MS Data Science	USA
50	Pakala Mohana Pravallika	VTU15098	MS CS	USA
51	B. Mohan	VTU15095	MS CS	USA
52	Chinthapalli Mounika	VTU15110	MS CS	USA
53	Sanke Vamshi	VTU17548	MS CS	USA
54	Maddela Vinay Kumar	VTU15367	MS CS	USA
55	Maddala Sravani	VTU15226	MS CS	USA
56	Cheekati Harika	VTU12485	MS CS	USA
57	Perumalla Mohan Reddy	VTU17466	MS CS	USA
58	Pagidimarri Madhavi	VTU17304	MS CS	USA
59	Shaik Faizullah	VTU17774	MS CS	USA
60	Shaik Zameer	VTU17299	MS CS	USA

EV GAME CHANGER

Toyota's Solid-State Batteries: The EV Game Changer

Breakthrough Overview

Toyota's solid-state battery (2025) offers 750-mile range and 10-minute charging, eliminating EV range anxiety.

Technical Specifications

- Lithium Metal Anode: Doubles energy density vs. lithium-ion.
- Ceramic Electrolyte: Non-flammable and durable.

Applications

- Consumer EVs: Toyota's 2026 electric Lexus.
- Aviation: Partnering with Joby for eVTOL aircraft.

Challenges

- Manufacturing Scale: Current production costs are 5x lithium-ion.

Future Outlook

Mass production by 2027, targeting $100/kWh cost.

HIGHER STUDIES Cont...

61	M. Vishnu Vardhan	VTU17935	MS CS	USA
62	Shaik Saifulla	VTU17297	MS CS	USA
63	Pilla Sravanthi	VTU18053	MS CS	USA
64	Shaik Noorjahan	VTU18049	MS CS	USA
65	Shaik Abdul Rahman	VTU17505	MS CS	USA
66	Marripudi Deepika	VTU17183	MS CS	USA
67	Shaik Haneef	VTU17504	MS CS	USA
68	Shaik Abdul Gafoor	VTU17296	MS CS	USA
69	Shaik Abdul Khadar	VTU17300	MS CS	USA
70	Shaik Rafi	VTU17298	MS CS	USA
71	Shaik Javeed	VTU17295	MS CS	USA
72	Shaik Abdul Subhan	VTU17294	MS CS	USA
73	Shaik Hussain	VTU17503	MS CS	USA
74	Shaik Imran	VTU17502	MS CS	USA
75	Shaik Kaleem	VTU17501	MS CS	USA
76	Shaik Nazeer	VTU17500	MS CS	USA
77	Shaik Sameer	VTU17499	MS CS	USA
78	Shaik Shafi	VTU17497	MS CS	USA
79	Shaik Siraj	VTU17496	MS CS	USA
80	Shaik Yaseen	VTU17495	MS CS	USA

RAY-BAN AI GLASSES

Meta’s Ray-Ban AI Glasses: Always-On AR

Breakthrough Overview

2024’s Ray-Ban Meta glasses feature real-time AI translation, object recognition, and live streaming.

Technical Specifications

- 12MP Cameras: 1080p video recording.
- Multimodal AI: Answers queries via voice (powered by Llama 3).

Applications

- Travel: Instant translation of street signs.
- Social Media: Livestreaming hands-free.

Challenges

- Privacy: Recording in public raises legal issues.

Future Outlook

Meta aims for 10M users by 2026, with prescription lens partnerships.

HIGHER STUDIES Cont...

81	Shaik Zakir	VTU17494	MS CS	USA
82	Shaik Zubair	VTU17493	MS CS	USA
83	Shaik Salman	VTU17492	MS CS	USA
84	Shaik Rahman	VTU17491	MS CS	USA
85	Shaik Ghouse	VTU17490	MS CS	USA
86	Shaik Fareed	VTU17489	MS CS	USA
87	Shaik Firoz	VTU17488	MS CS	USA
88	Shaik Raju	VTU17486	MS CS	USA
89	Shaik Baba	VTU17485	MS CS	USA
90	Shaik Basha	VTU17484	MS CS	USA
91	Shaik Basha Peer	VTU17483	MS CS	USA
92	Shaik Kareem	VTU17482	MS CS	USA
93	Shaik Subhan	VTU17481	MS CS	USA
94	Shaik Rafiq	VTU17480	MS CS	USA
95	Shaik Mehboob	VTU17479	MS CS	USA
96	Shaik Asif	VTU17478	MS CS	USA
97	Shaik Ibrahim	VTU17477	MS CS	USA
98	Shaik Osman	VTU17476	MS CS	USA
99	Shaik Rasool	VTU17475	MS CS	USA
100	Shaik Azhar	VTU17474	MS CS	USA

LOOKING GLASS 3D HOLOGRAMS: NO HEADSET NEEDED

3D HOLOGRAMS

BREAKTHROUGH OVERVIEW

2024's Looking Glass Pro displays glasses-free 3D holograms for design and gaming.

Technical Specifications

- 65-Inch 8K Display: 100-viewing-angle holograms.
- Unity/Unreal Integration: For developers.

Applications

- Medical Visualization: 3D MRI scans.
- Retail: Virtual product demos.

Future Outlook

Consumer models expected by 2026 at <$5,000.

MAGAZINE ENSIGHTBYTES

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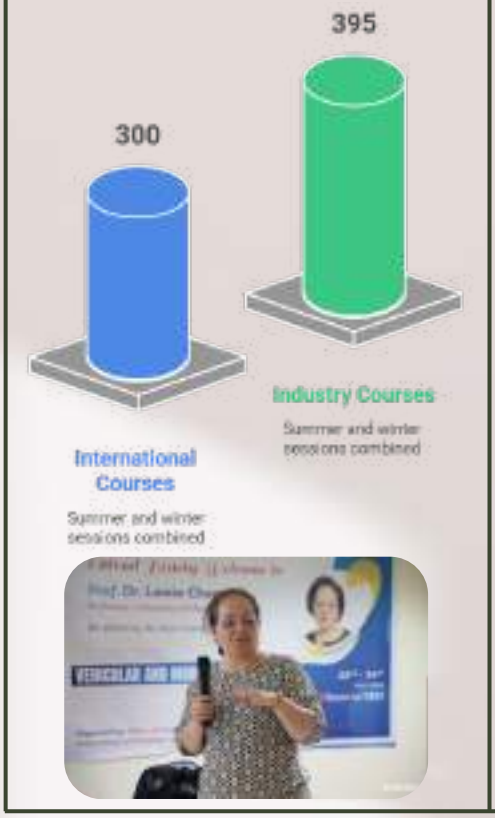

Publications:

Awards/Publications

Dr. Kujani T from Vel Tech Rangarajan Dr. Sagunthala R&D Institute ofScience and Technology presented a paper titled "Quantum ResNet18for Classifying and Predicting Maize Leaf Diseases" at the 3rdInternational Conference on Recent Advances in Electrical, Electronics,Ubiquitous Communication, and Computational Intelligence(RAEEUCCI-2024). This conference, organized by the Department ofElectronics and Communication Engineering at SRM Institute ofScience and Technology (SRMIST) in Kattankulathur, Tamil Nadu, India,took place on April 17-18, 2024. The event was technically co-sponsored by IEEE. Dr. Kujani's paper, co-authored with colleagues,received the Best Paper Award at the conference.

AI Surgeons

AI Surgeons: Autonomous Robotic Operations

Breakthrough Overview

Harvard/MIT's Smart Tissue Autonomous Robot (STAR) performed fully autonomous suturing in 2024.

Technical Specifications

- Computer Vision: Tracks tissue deformation in real time.
- Force Feedback: Mimics human touch.

Applications

- Rural Healthcare: Remote surgeries via 5G.
- Space Missions: NASA tests for Mars missions.

Challenges

- Regulation: FDA approval for critical procedures.

Future Outlook

Widespread adoption in 2030s, reducing surgical errors by 50%.

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

NAAC A++

Recognised as CATEGORY-1 DEEMED TO BE UNIVERSITY by the UGC University Grants Commission

Department of Computer Science and Engineering

PROGRAM OUTCOMES (POs)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

(WK - Knowledge and Attitude Profile)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Mathematical Concepts: Equipped with the knowledge to infer the mathematical models for problem solving using data structures, design and analysis of algorithms.

PSO2: Software Development: Exhibit proficiency to analyze, design and develop applications in various domains to provide solutions using innovative ideas.

PSO3: Transferring Skills: Demonstrate the ability to provide solutions for real world problems through acquaintance and hands-on training

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