MITS
MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(Deemed to be University under section 3 of UGC Act, 1956)

A Report on

Seminar on

"The Digital Twin in Medicine: A key to Future of Healthcare"

&

"ADAS, The Game Changer Towards Autonomous Driving System"

Organized by

Department of Electronics and Communication Engineering

in Association with

MITS – IETE Students Forum (ISF)

on 31.12.2025

Report Submitted by: Mr. R. Arivarasu, Assistant Professor, Department of Electronics & Communication Engineering.
Attendees : 113 Students and Faculty Members
Mode of Conduct: Offline
Report Received on 13.01.2026.

The Department of Electronics and Communication Engineering, in association with the MITS–IETE Students Forum (ISF), organized a seminar on "The Digital Twin in Medicine: A key to Future of Healthcare & ADAS, The Game Changer Towards Autonomous Driving System" on 31st December 2025 at Seminar Hall – A, from 09:00 AM to 05:00 PM.

The session was graced by **Dr. D. Vijendra Babu**, Associate Professor (Grade–I), School of Electronics Engineering, Vellore Institute of Technology (VIT), Vellore; Vice Chair, Robotics & Automation Society (RAS); Secretary, Vehicular Technology Society (VTS), IEEE Madras Section; and Executive Committee Member, IETE Chennai Centre (2024–26), who served as the Resource Person. The seminar aimed to create awareness among students about the importance of The Digital Twin in Medicine: A key to Future of Healthcare & The Game Changer Towards Autonomous Driving System, and emerging challenges in the field.

The event commenced with a welcome address by Mr. V. S. Prasanth, Assistant Professor, Department of ECE, who extended a warm welcome to the resource person, dignitaries, faculty members, and students.

Dr. S. Rajasekaran, Professor and Head of the Department of Electronics and Communication Engineering, addressed the gathering and emphasized the significance of digital twin technology in medicine as a key enabler for the future of healthcare, as well as its transformative role as a game changer in the development of autonomous driving systems.

Dr. P. Ramanathan, Principal, in his address, underscored the significance of digital twin technology in medicine as a key driver for the future of healthcare, and highlighted its transformative role as a game changer in the advancement of autonomous driving systems.

The resource person, **Dr. D. Vijendra Babu**, delivered an insightful and interactive session on The Digital Twin in Medicine: A key to Future of Healthcare & The Game Changer Towards Autonomous Driving System. He discussed various aspects of digital twin technology in healthcare, including IoT-enabled real-time health monitoring, AI-driven predictive modeling, personalized medicine, and organ-level simulations. His presentation also highlighted the application of digital twins in hospital management, remote healthcare delivery, drug discovery, public health planning, and healthcare education. The session was enriched with practical insights and illustrative examples, significantly enhancing the participants' understanding of the transformative role of digital twins in the future of healthcare.

- Digital Twin technology creates a virtual replica of real patients, organs, and healthcare systems.
- By integrating IoT sensors and real-time data, Digital Twins enable continuous health monitoring.
- Healthcare Digital Twins combine physical data with AI-driven predictive modeling and simulation.
- This technology supports personalized medicine by tailoring treatment to individual patient data.
- Organ-level Digital Twins help simulate diseases and predict treatment outcomes before intervention.
- Hospitals can use Digital Twins to optimize ward management, resources, and workflows.
- Digital Twins play a key role in remote and home-based healthcare delivery.
- They accelerate drug discovery and improve the efficiency of clinical trials.
- At a population level, Digital Twins support public health planning and pandemic management.
- Digital Twins are shaping the future of healthcare education, training, and policy planning.

The seminar was coordinated by **Dr. R. Saravana Kumar Assistant Professor, EEE**, and **Mr. V. S. Prasanth**, **Assistant Professor, ECE**, under the guidance of the IETE Forum. The **event coordinators**, **Mr. R. Arivarasu**, **Assistant Professor, ECE**, and **Mr. T. Manivannan**, **Assistant Professor, ECE**, ensured the smooth conduct of the seminar.

The session concluded with a **Vote of Thanks** proposed by **Mr. R. Arivarasu Assistant Professor, Department of ECE**, who expressed gratitude to the management of **MITS (Deemed to be University) Dr. C. Yuvaraj**, **Vice Chancellor**, **Dr. P. Ramanathan**, **Principal**, **Dr. C. Kamal Basha**, **Vice Principal (Administration)**, and **Dr. S. Rajasekaran Professor & Head, ECE** – for their continuous support and encouragement.

Special thanks mentioned for resource Person, **Dr. D. Vijendra Babu**, for sharing his valuable expertise.

Faculty members, **IETE coordinators**, and a large number of **students** from the Department of ECE actively participated in the seminar and benefited from the expert's insights into digital twin technology in medicine as a key driver for the future of healthcare and advancement of autonomous driving systems.

The seminar proved to be a **valuable learning experience**, enhancing the participants' understanding of digital twin technology in medicine and advancement of autonomous driving systems essential in today's digital world.

The seminar highlighted the transformative role of Digital Twin technology in shaping the future of healthcare and autonomous systems. Eminent speakers emphasized its applications in continuous health monitoring, personalized medicine, hospital resource optimization, and public health planning. The event provided valuable insights through practical perspectives and real-world applications, greatly benefiting students and faculty. The programme was well received and appreciated for its relevance and timely focus on emerging digital technologies.

Newspaper Clips:

డిజిటల్ ట్విన్ మెడిసిన్ పై అవగాహన

కురబలకోట డిసెంబర్ 31 ప్రభాతవార్త

మండలం అంగళ్ళుకు సమీపంలోని మీట్స్ డీమ్డ్ టు బి యూనివర్సిటీలో ఎలక్ట్రానిక్స్ అండ్ కమ్యూనికేషన్స్ ఇంజనీరింగ్ విభాగం వారుమీట్స్ ఇన్స్టిట్యూట్ ఆఫ్ ఎలక్ట్రానిక్ అండ్ టెలి కమ్యూనికేషన్ ఇంజనీర్ వారి ఆధ్వర్యంలో డిజిటల్ ట్విన్ మెడిసిన్ మరియు ఆటోనమస్ డ్రైవింగ్ సిస్టమ్స్ అనే అంశంపై ముఖ్యఅతిథి ఉపన్యాస కార్యక్రమాన్ని నిర్వహించారు. వేలూరుకి చెందిన వివిటి అసోసియేట్ ప్రొఫెసర్ డాక్టర్ డి విజయేంద్ర బాబు మాట్లాడుతూ డిజిటల్ మెడిసిన్ ప్రాముఖ్యత వివరిస్తూ రోగి శరీరానికి డిజిటల్ రూపాన్ని రూపొందించడం ద్వారా నిర్ధారణ చికిత్స ప్రణాళిక నిరంతర మానిటరింగ్ చేయవచ్చునని తెలిపారు. డ్రైవింగ్ సిస్టంపై మాట్లాడుతూ ఆర్టిఫిషియల్ ఇంటిలిజెన్స్ ఆధారంగా సెన్సార్లు మ్యాప్స్ ఆర్డర్ కెమెరాలు అల్ట్రాసౌండ్ ద్వారా డ్రైవర్ లేకుండానే వాహనాల నావిగేట్ చేయగలవని బ్రూజ్ కంట్రోల్ మార్చి ఆటోమేషన్ స్టీరింగ్ కంట్రోల్ డ్రైవర్ అలర్ట్ వంటి సదుపాయాలు ప్రమాదాలను గణనీయంగా తగ్గిస్తాయని వివరించారు. ఈ కార్యక్రమంలో ప్రిన్సిపాల్ డాక్టర్ పి .రామనాథన్, విభాగాధిపతి డాక్టర్ ఎస్ రాజశేఖర్, ఐఈటి ఈ కోఆర్డినేటర్ డాక్టర్ ఆర్ శరవణ కుమార్, కోఆర్డినేటర్స్ ఆ రివర్స్, ప్రశాంత్ అధ్యాపకులు విద్యార్థులు పాల్గొన్నారు.