Karunya
DEEMED UNIVERSITY
SOLVING HUMAN PROBLEMS
NAAC Accredited A++

Accreditation
A++ Grade

Global Ranking
THE World University Rankings 2025
1201-1500 Band

B.Tech.
ROBOTICS and AUTOMATION

Technology Partner FESTO

Division of
ROBOTICS ENGINEERING

CATEGORY 1 Institution
UGC GoI.

ADMISSIONS 2026

Introduction about the Department

The Department of Robotics Engineering at Karunya Institute of Technology and Sciences stands at the forefront of technological innovation and interdisciplinary learning. Accredited by the National Board of Accreditation (NBA) in 2024, the department integrates diverse domains including Artificial Intelligence, Mechatronics, Electronics, Embedded Systems and Smart Sensors to prepare students for the rapidly evolving landscape of intelligent systems and automation.

Established in 2018 with the launch of the B.Tech. Robotics and Automation program and expanded in 2020 with the M.Tech. Robotics and Automation program, the department has emerged as one of the most dynamic and sought-after engineering disciplines. Robotics today plays a pivotal role across industries such as aerospace, defence, manufacturing, healthcare, agriculture, and automotive, and the convergence of AI has transformed robotic systems into intelligent and adaptive technologies.

The curriculum is thoughtfully crafted to align with global industry standards, emphasizing innovation, research, and practical learning. The department houses state-of-the-art laboratories equipped with advanced robotic platforms such as Yaskawa Motoman GP8 Serial Manipulator, Collaborative robots, Quansar Qbot, Festo Modular Production System, Additive Manufacturing Systems and NVIDIA Jetson Nano Edge AI Modules enabling students to work on real-time industrial and research projects that strengthen problem-solving and employability skills.

Industry Collaboration

Strong industry and research collaborations form the cornerstone of the department's success. The FESTO as the Technology Partner – Center of Excellence in Intelligent Automation serves as a premier hub for hands-on training and industry-driven research, while the Siemens partnership enhances expertise in industrial automation and digital manufacturing. The e-Yantra initiative supported by IIT Bombay fosters project-based learning in embedded systems and robotics. Additionally, the department has secured funding of 1 crore from the I-Hub Foundation for Cobotics (IHFC) at IIT Delhi for advanced research in assistive robots.

The department actively engages in international collaborations, enabling students from countries such as France, Bolivia, Nigeria etc to benefit from the academic and research expertise available in the department, while renowned global professors contribute to academic and research activities, enriching the students with global perspectives.

Active participation by the students in national and international competitions such as eYRC, eYIC, Hackathons, GUJCOST-Robofest and more, nurtures creativity, teamwork, and technical excellence. The department achievements include numerous patents, funded projects, and successful robotics-based startups, reflecting a strong culture of innovation, entrepreneurship, and excellence in intelligent automation.

Vision

To raise engineers and researchers with technical expertise in Robotics and Automation engineering to meet the needs of industry and society.

Mission

- To equip the students with adequate knowledge and skills in the field of robotics and automation.
- To instil in the students, a quest for technological research and innovation towards finding solutions to human problems.
- To nurture leadership skills with ethical values to make lasting contributions to science, technology, and society.

Programs Offered

- **B.Tech.** Robotics and Automation
- **B.Tech.** Robotics and Automation (Specialization in Artificial Intelligence and Data Science)
- **B.Tech.** Robotics and Automation (Specialization in Artificial Intelligence and Machine Learning)
- **M.Tech.** Robotics and Automation
- **Ph.D.** Robotics Engineering

Laboratory Facilities

- Robotics Laboratory
- Artificial Intelligence Laboratory
- Intelligent Automation Laboratory
- Sensors and Data Acquisition Laboratory
- Mobile Robotics Laboratory

Centres of Excellence

- Festo Center of Excellence in Intelligent Automation
- Karunya Siemens Centre of Excellence in Automation and Drives
- E-Yantra Centre of Excellence in Embedded Systems and Robotics

Research Activities

The faculty and students actively engage in cutting-edge research in Robotics, Automation, and AI. Within a short span, the department has received funding of approximately 2 Crore from agencies like ICMR, DRDO, DST, IHFC and NGOs.

Sponsored Projects

Fund Received: ~2 Cr.

- Affordable AI Driven Bionic Hand
- Demask Biowaste Management Kiosk
- Cognitive IoT Application for Depression Diagnosis and CBT Chatbot Treatment
- Voice Enhanced Assistive and Safety Device for the Elderly (DST-TIDE)
- Cryocure – An Antidote for Sports Injuries and Muscle Spasms (ICMR)
- Electronic Speed Control for Actuators (DRDO RSQR Scheme)

Patents Published: 11
Patents Granted: 3

- Robotic Exoskeleton for Foot Mobility Rehabilitation
- Low-cost Brain Mapping Tool for Epilepsy Detection
- Novel Volume Measurement Device for irregular shaped containers
- Portable Ice Bath Device for Sports Injury Treatment
- Voice-Assisted Device for the Elderly
- AI-based Unmanned Ground Vehicle with Auto-Deploying Aerial Vehicle
- Embedded System for Real-Time Prediction of Musical Chord Progressions
- Industrial Contact Hum Measurement Device
- Capacitance-based Floating Object Sensor
- Velocity-Induced ThermoSyphon System for Fluid Velocity Enhancement

National and International Internships

Students receive internship opportunities in industries such as Renault Nissan, Hyundai Motors, Daimler Trucks, Verzeo: Government organizations such as DRDO, ISRO, IITM. IITB, IITP. IIT Tirupathy as well as International Universities in Brazil, Poland, Lithuania, Germany, Austria, and more.

Short-Term / Certificate / Add-on Courses

- Festo Certified Course on MPS
- Siemens Certified Training – PLC, Automation, and Drives
- MATLAB for Robotics
- Sensors and IoT
- Automation using LabVIEW
- Robot Operating System (ROS)
- Robotic Process Automation (RPA) Developer Training
- Entrepreneurship
- C, C++, Embedded C
- Design Thinking

Thrust Areas of Research

- Collaborative Robots (Cobots) & Human–Robot CollaborationIntelligent Automation
- Human-Centered AI & Autonomous Systems
- Wearable Robotics & Exoskeletons
- Robotic Vision & Perception
- Edge AI for Real-Time Robotic Decision-Making
- Smart Embedded Controllers for Autonomous Drones and UGVs

MoU / MOA Signed

- Festo Center of Excellence in Intelligent Automation
- Karunya Siemens Centre of Excellence – Authorized Training Centre for Southern India
- Abe Semiconductor Designs, Chennai
- E-Yantra Lab Setup Initiative

Testimony of Student Achievers

Mr. Pydimalla Sandeep
B.Tech RA (2020–2024)

My academic journey at Karunya Institute of Technology and Sciences has been an enriching experience that shaped my technical abilities, work ethic, and confidence. I am sincerely thankful to the faculty of the Department of Robotics Engineering for their mentorship and dedicated support throughout the course of study. I gratefully acknowledge God's guidance in achieving this milestone. I am delighted to be placed at Mercedez Benz with a CTC of ₹12 LPA and feel honored to be a Karunyan.

Ms. Tushara Bindu Koppisetti
B.Tech RA (2021–2025)

I am grateful to God Almighty for His grace, wisdom, and strength that made me what I am today and be placed in Renault Nissan Technology & Business Centre India (RNTBCI). My sincere thanks to Karunya Institute of Technology and Sciences for providing me academic excellence and personal growth. The support from the staff of the Department of Robotics and Automation, the well-structured curriculum, and the emphasis on innovation and values have rendered a significant role in shaping my career.I extend my sincere gratitude to the Training and Placement Cell for their continuous encouragement, guidance, and excellent placement opportunities. Above all, I thank God Almighty and my dear parents for making this milestone possible.

Major Recruiters

RENAULT NISSAN · HYUNDAI · Mercedes-Benz · LARSEN & TOUBRO
FANUC · motherson · OGMEN ROBOTICS · LTIMindtree
Infosys · cognizant · Tech Mahindra · wipro

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