



## M.Tech. **ROBOTICS and AUTOMATION**

### Department of **ROBOTICS ENGINEERING**

#### ► Vision

The Vision of the department is "To raise engineers and researchers with technical expertise on par with international standards, professional attitude and ethical values with the ability to apply acquired knowledge, to have a productive career and empower spiritually to serve humanity".

#### ► Mission

To equip the students with adequate knowledge in the field of Robotics and Automation with exemplary values on a spiritual foundation. To enhance the research initiatives in the department focusing on human problems thereby making lasting contribution to science, technology and society.

## Admissions 2021

#### ► About Us

Robotics and Automation are pervasive, enabling technologies that are found in almost any modern technical system, in particular, in production and transportation systems. This programme aims at providing the students with appropriate theoretical inputs and opportunities for hands-on training. The state of the art infrastructure in various laboratories such as Robotics, Hydraulics and Pneumatics, PLCs, Sensors and Actuators, Microcontrollers, and IIOT facilitates effective learning.

It combines and applies technological skills of mechanics, electrical drives, sensor technology, and information processing to optimize systems of robots for different domains. The post graduate engineers in robotics and automation shall be able to design industrial robots that are automated, programmable, and capable to move in a dexterous workspace. With the drive toward "Industry 4.0," the use of robotics, automation, and control systems on the factory floor has become common as they increase efficiency, productivity, and profitability of the factory.

## Programs Offered

- **B.Tech.** Robotics and Automation
- **B.Sc.** Robotics & Artificial Intelligence
- **M.Tech.** Robotics and Automation
- **Ph.D.** Robotics and Automation

## Laboratory Facilities

To impart practical knowledge in advanced concepts and achieve technical expertise following Laboratory facilities equipped with sophisticated equipment.

- Industrial Robots with state-of-the-art facility for development of industrial applications in campus.
- Qbot 2e - autonomous ground robot, with built-in sensors and a vision system for smart navigation
- Automation hardware: Siemens PLC, GE Fanuc, SCADA-Cimplicity, Siemens DCS
- Embedded and IoT Lab- ATmega, Raspberry Pi, Arduino, DSP Processor, BlackFin Processor
- Project Development Lab equipped with necessary infrastructure to develop in-house products and patents
- Virtual Instrumentation Lab equipped with LabVIEW NXG and Embedded hardware for faster prototyping.

## Short-term / Certificate / Add-on courses Offered

Skill development courses conducted for placements in core industries are:

- C, C++, Embedded C
- ATmega, Arduino, Rasperry Pi, ARM Cortex
- MATLAB & LabVIEW Training
- Electronics Hobby Workshop
- Python Programming
- Automation workshop
- Robotics Workshop
- Entrepreneurship Awareness

## Research activities

The department is involved in research activities in key thrust areas such as Health, Water, Food and Energy. Some of the research activities are:

## International Funded Projects

- Wet diaper Alert system  
**Funded by:** Boston Children Hospital, Boston, USA.
- Continuous Bed side Monitoring System.  
**Funded by:** Boston Children Hospital, Boston, USA.

## Sponsored Projects

- Design and Development of Health Monitoring System for Pregnant Women in Rural Areas under CSR Scheme, Jasmin Infotech.
- Cryocure: An Antidote for Sports Injuries and Muscle Spasms under ICMR
- Development of Electronic Speed Control for Actuators with feedback mechanism" under RSQR Scheme, DRDO

## Patents Published

- A Test Set up Device for AC Contactor to Automate Hum detection and methods thereof.
- A Novel Volume Measurement System for an Irregular Shaped Tank
- A Low-cost Portable Cryotherapy Instrument for treating Sports Injuries

## MoU/MoA Signed

- Vi-Microsystems Pvt Ltd, Chennai.
- Salzer Electronics Pvt Ltd, Coimbatore
- Karunya Rural Community Hospital, Karunya Nagar.

## Testimony



### Ranaganthan J

Senior Engineer, Tata Elxsi Limited

Karunya gave me opportunities to harness the Leadership potential within me. Karunya is the place where my dreams come true. I did everything that I had planned for. It was a very good experience. I am very grateful to my faculty members.

## Our Recruiters



Contact:



### The Head of Department

Department of Robotics Engineering

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