

# INDIAN INSTITUTE OF TECHNOLOGY PATNA

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PLACEMENT BROCHURE  
MECHATRONICS  
2022-23

# Mechatronics at IIT Patna

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## ABOUT US

M.Tech in Mechatronics is offered by School of Engineering & Technology (Department of Mechanical Engineering jointly with Department of Electrical Engineering), IIT Patna. The program is designed for Mechanical Engineers, Electronics Engineers, Instrumentation Engineers and Electrical Engineers who aspire to become strong contributors to multidisciplinary design and product development teams. Contributing to ground breaking research activities by nurturing the best minds of the country, is one of the key motto of the program. In this program, engineers with a solid foundation in the core principles of their complementary discipline gets augmented with focused study in Mechatronics at the intersection of Mechanical Engineering, Computer Science Engineering and Electronics Engineering.

# HOD'S MESSAGE

Dear Recruiters ,

Department of Mechanical engineering in collaboration with Department of Electrical Engineering launched its first masters program M. Tech. in Mechatronics in the year 2012 with an aim to provide a platform for interdisciplinary research. Consequently, the program has gained popularity among mechanical, electrical, electronics and instrumentation engineers and has become one of the most successful master's degree program at IIT Patna. The curriculum is designed to inculcate in-depth knowledge of fundamentals of Mechatronics with 'learning by doing' pedagogical approach. The success of the program can be gauged from the placement offers received by our students from companies such as TVS, TCS, Tata Motors , L&T, Amazon, Google, IBM, Indian Navy , DRDO among others . In addition, our alumni are either pursuing or have completed their higher studies in world-class universities like IITs , NUS, Istituto Italiano di Tecnologia, and Cornell in the areas aligned with mechatronics and robotics . Looking forward to see you at our campus .

Season' s greetings and warm regards ,



**Dr. Probir Saha**

Head, Department of  
Mechanical Engineering



# COURSE WORK

## Core Subjects

- Fundamental of Mechatronics
- Sensors and Actuators
- Modelling and Simulation
- Advanced Engineering Mathematics

## Electives

- Fundamental of Machine Learning
- Introduction of Deep Learning
- Natural Language Processing
- Digital Image Processing
- Robotics: Advanced Concepts and Analysis
- Mobile Robotics
- Computer Numeric Controlled Machine Tools

## Lab Work

- Sensors and Actuators
- PLC
- Pneumatic and Hydraulic
- Microprocessors
- Micro-controllers
- Audio Processing
- Image Processing
- Data Acquisition System
- Computer Vision

## Software / Languages

- Python
- MATLAB
- C++
- CoppeliaSim
- FluidSim
- Autodesk Eagle
- Solidworks/Catia

# LABORATORY

## Mechatronics, Instrumentation and Control Lab

This research lab is focused on path planning and control of various stationary and mobile robots such as aquatic robotic arm, micro-robots and haptics



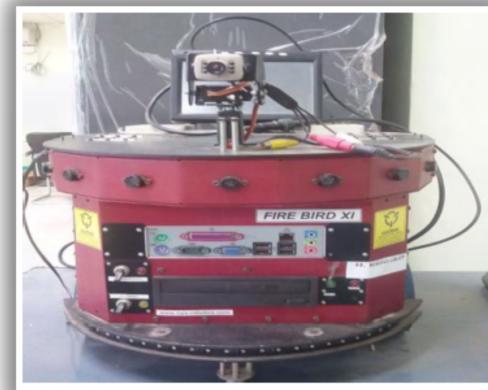
### This lab is equipped with

- KUKA KR3 R50
- 2.5 AXIS CNC MACHINE
- LASER CUTTING MACHINE
- PCB RAPID PROTOTYPING
- FESTO INDUSTRIAL AUTOMATION KIT
- NIKON INVERTED MICROSCOPE
- DATA ACQUISITION SYSTEM BY NATIONAL INSTRUMENTS

# LABORATORY

## Robotics and Automation Lab

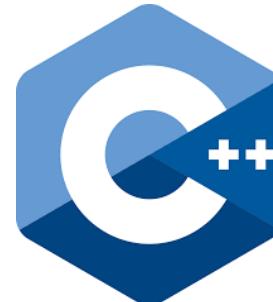
This research lab is focused on artificial skin, soft robotics , fish inspired robots, indigenous bi-axial testing machine for soft materials and cryogenic setups



## This lab is equipped with

- 6 AXIS ARISTO ROBOT
- 4 AXIS SCARA ROBOT
- 5 AXIS SCORBOT ROBOT
- FIRE BIRD XI
- SMART MATERIALS TESTING EQUIPMENT

# TECHNICAL SKILLS



TensorFlow



# CURRENT PROJECTS

- IOT based gear box monitoring
- Monitoring of mechanical process using computer vision
- Conversational agent: for sales domain
- Computer vision and deep learning-based data anomaly detection method for structural health monitoring
- Developing multi-modal recommendation system
- Remote monitoring and controlling of crop growth using AI based drones
- IOT-AI for Drone Applications
- IOT-AI for Self-Driving Car application

# PREVIOUS RECRUITERS



STMicroelectronics



SIEMENS

droom

ao apporchid  
· Enterprise AI ·

The iManage logo, featuring a blue 'm' icon inside an oval shape and the word "iManage" in black.

The RBL BANK logo, featuring a red and blue 'b' monogram above the words "RBL BANK" in red.

# CURRENT BATCH



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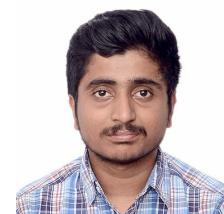
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