



VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

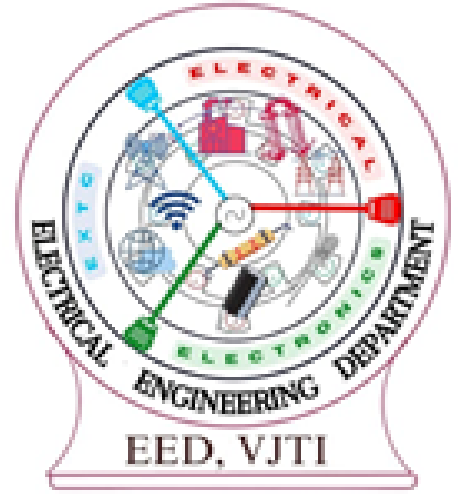
(Autonomous Institute of Government of Maharashtra)

MATUNGA, MUMBAI - 400019

ELECTRICAL ENGINEERING DEPARTMENT (EED)

Institute Website: vjti.ac.in

Department Website: <https://vjti.ac.in/electrical-engineering/>



Courses Offered:

B.Tech in Electrical Engineering (Intake- 60)

M.Tech in Electrical Engineering- **Integrated Power Systems** (Intake- 25)

M.Tech in Electrical Engineering- **Embedded Control Systems** (Intake- 25)

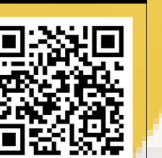
Ph.D. in Electrical Engineering

Expert Areas:

- Non-Linear and Linear System Modelling
- Power System Stability, Control and Fault Analysis
- Grid Connected Converter and Microgrid design simulation
- Embedded Systems and Control
- Electromagnetic Field Analysis
- High Voltage Engineering
- Machine Learning Applications in Engineering
- Temporal Data Study and modelling
- Generative AI-Transformer Architecture

Laboratories:

1. Electrical Machines & Drives Lab
2. High Voltage Lab
3. Simulation Lab
4. E-MC² Lab
5. Controls Lab
6. Electrical Workshop
7. Measurement and Instrumentation Lab
8. Electrical Circuits Lab
9. Power Electronics Lab
10. Basic Electrical and Electronics Lab



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INDUSTRY MOUs

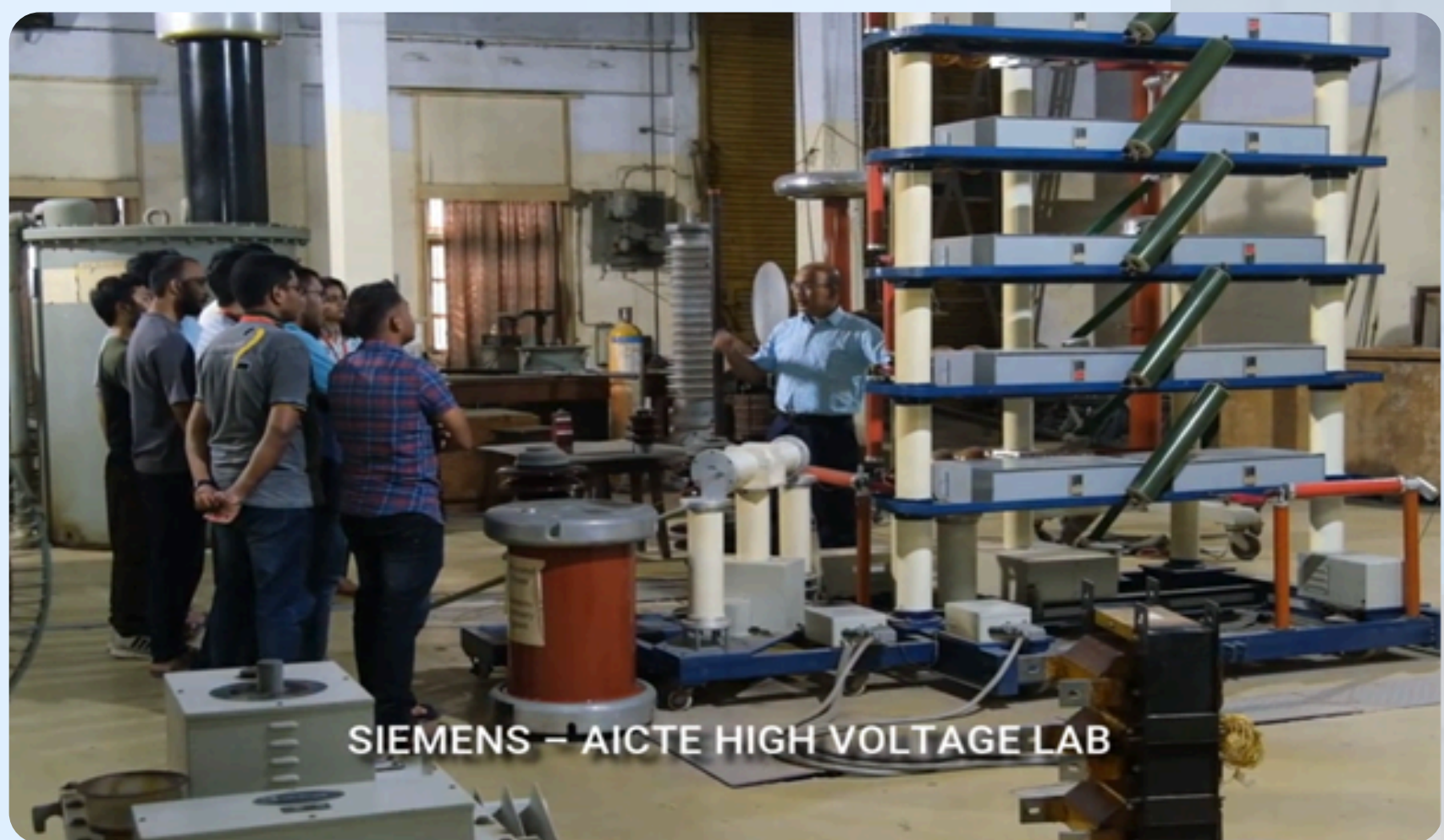
- International Gemological Institute Pvt. Ltd.
- Savex Technologies.
- Motwane and Test Data Technologies India Pvt. Ltd.

ACADEMIC MOUs

- Binghamton University, New York, USA.
- University of Sannio, Italy.

NOTABLE ALUMNI

- Dr Arun Mahindrakar (M. Tech in Control Systems 1997) currently - Professor, EED, IIT Chennai
- Dr Ramakrishna Pasumathy (M. Tech in Control Systems 2001) currently - Professor, EED, IIT Chennai
- Dr. Sonam Kharade (M. Tech in Control Systems 2017, PhD, 2022) currently - Postdoc at Argonne National Laboratory, USA



INTERNATIONAL STUDENT ACHIEVEMENTS

- Best Paper Based on Reviewers' Choice for IEMTRONICS 2025, at Imperial College, London.
- Two Research papers accepted for presentation at PESGM 2025, Austin, Texas, USA.



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Drives & Control Lab

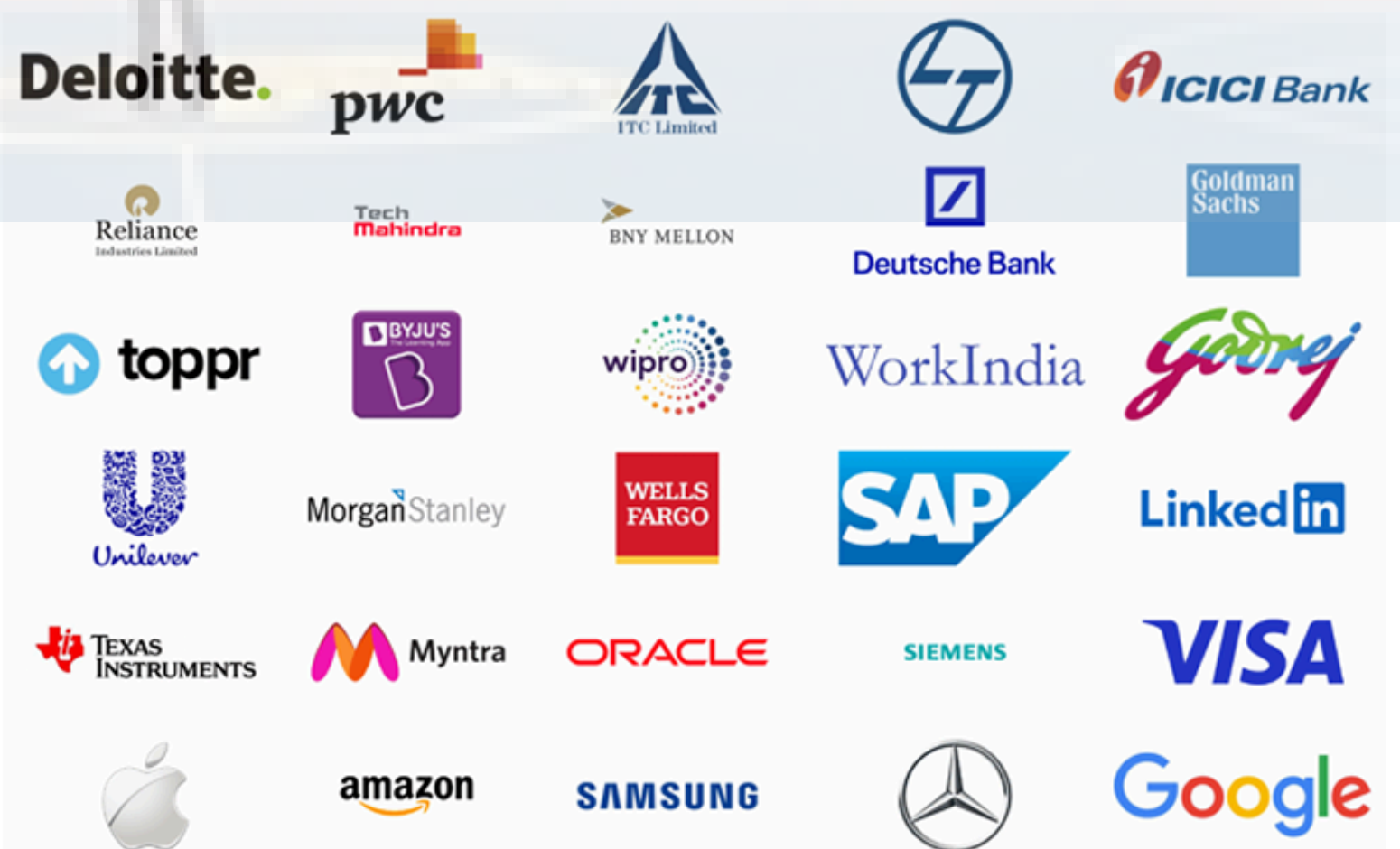
RESEARCH FACILITIES

Typhoon HIL
dSpace
DIgSILENT
COMSOL Multiphysics
PIC EM Simulator
FPGA
MATLAB
Tiny ML-Arduino Nano



E-MC² Lab

TOP RECRUITERS



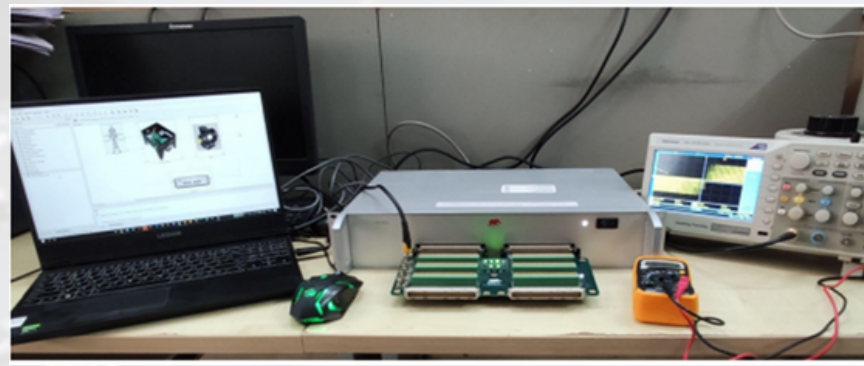


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(Autonomous Institute of Government of Maharashtra)
Matunga, Mumbai – 400019
Electrical Engineering Department (EED)

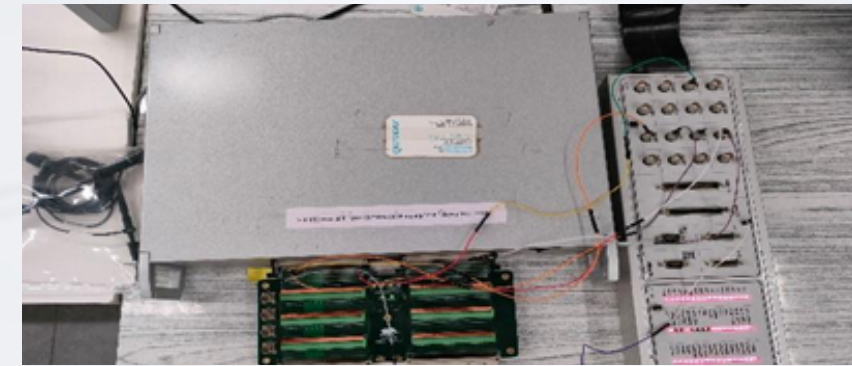


Why Join M.Tech Embedded Control Systems?

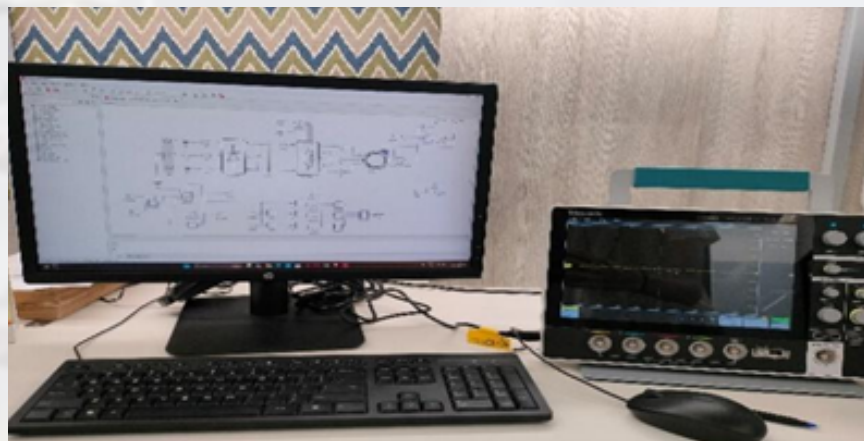
- Empowers students with deep theoretical knowledge and hands-on expertise in Modern control technologies and Embedded system design.
- Deep industry relevance with topics like Optimal and Adaptive Control, Electric Vehicles, Cyber-Physical Systems, and IoT integration
- Emphasis on practical problem-solving through hands-on labs, real-time hardware interfacing - tools - MATLAB/ Simulink/ Typhoon/ dSpace
- Interdisciplinary exposure to modern control, optimization, AI/ML.



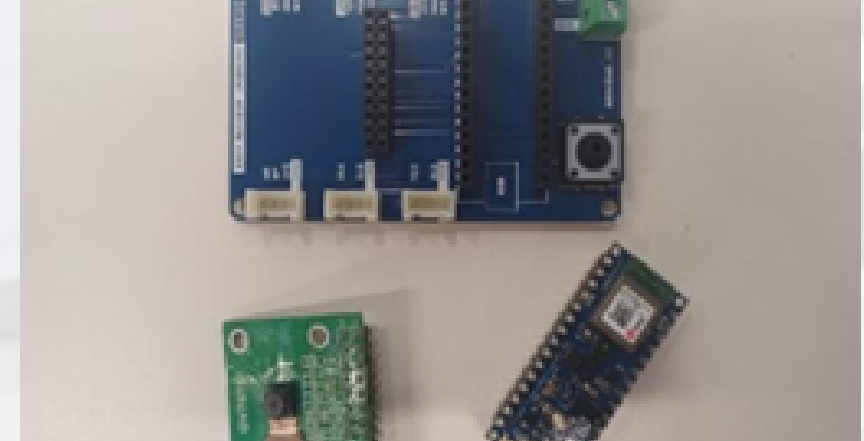
RTHIL- Testbed



dSpace Interface



Typhoon HIL Software Interface



Tiny ML Arduino Nano

About the Two-Year Program

- Build a strong foundation in essential mathematics— including Linear Algebra, Differential Equations, Probability & Statistics, and Optimization
- Gain expertise in control systems, covering Linear, Embedded, and Optimal Control, advanced Nonlinear and Robust adaptive strategies, and real-time system Estimation using Filtering and Data-driven techniques.
- Integrate theory with application by mastering Cyber-Physical Systems and their role in Electric Vehicles, and by developing skills in modeling and controlling Electric Machines, Drives, and Power electronic converters.
- Engage in lab-based learning using advanced hardware and simulation environments, complemented by a dissertation or internship focused on real-world problem solving.



After M. Tech in ECS

- Work in Automotive and Electric Vehicles, Aerospace & Defense, Industrial Automation, Renewable Energy systems, Healthcare devices
- Research positions in Academic labs and R&D centers.
- Opportunity to pursue a Ph.D. in Control systems, Power Electronics, Embedded systems, and related areas.



Drives and Control Lab



EV Lab (in collaboration with Mechanical Engineering Dept.)