M.Tech. in Signal Processing

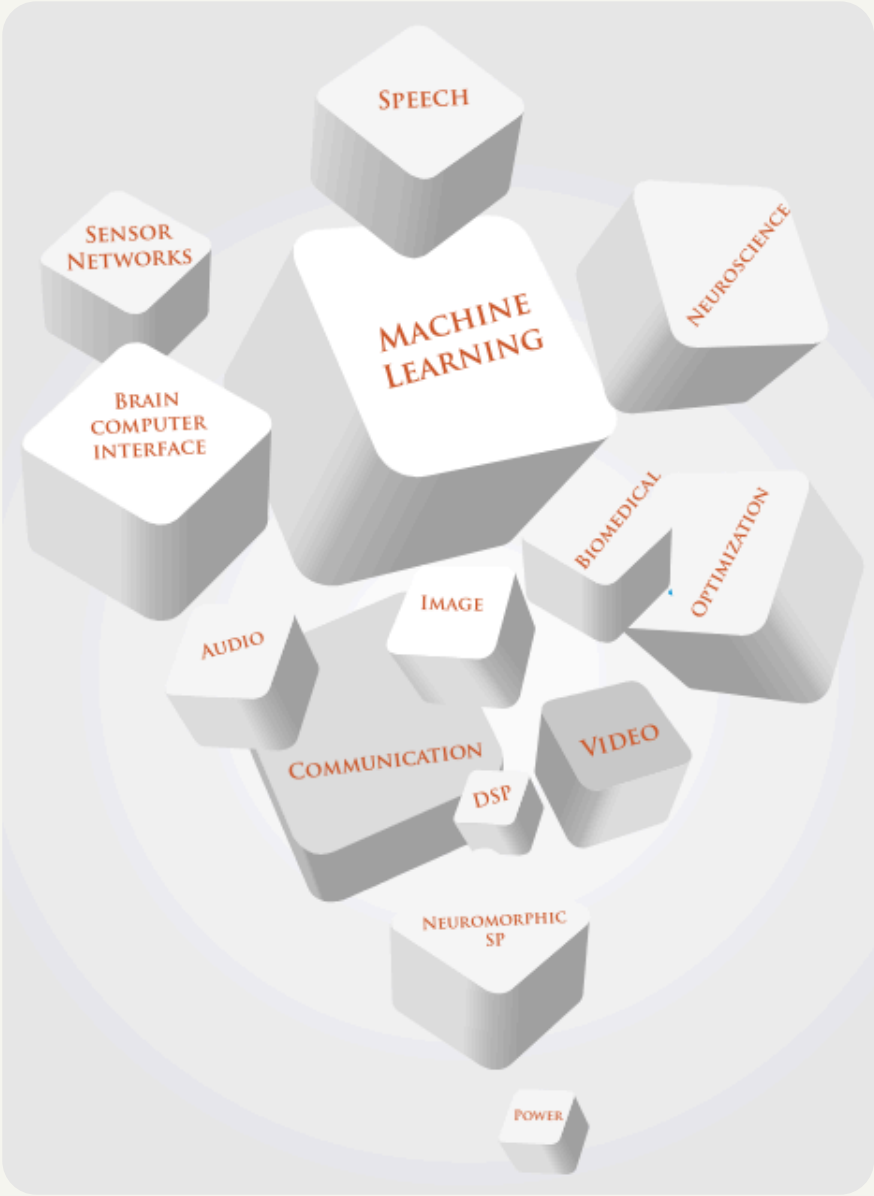
COEP Technological University

Shaping Minds

— Since 1865 —

Application

- Bachelor of Engineering/ Bachelor of Technology in Electrical Engineering, Electronics and Communication Engineering
- Valid GATE score in EE or ECE



COEP Technological University
Pune, Maharashtra, India
411005

Contact Us

metkars.extc@coeptech.ac.in
sfr.extc@coeptech.ac.in
020-25507503

About COEP Tech. University

- Chartered in 1854, Third Oldest College in Asia.
- Notable alumni include pioneers like Bharat Ratna Sir M. Visvesvaraya, Vijay Kelkar, Lila Poonawala, Laxman Narasimhan
- Ranked 73rd amongst 100 top Engineering Institutes as per NIRF 2023.
- Lead Center under the Technical Education Quality Improvement Program (TEQIP) assisted by MHRD-GoI and World Bank

About Department

FACILITIES

- Offers Undergraduate Programme, B.Tech in Electronics and Telecommunication Engineering, 4 Postgraduate Programmes and Ph.D Programmes.
- Grants Courses encompass a multitude of disciplines across diverse verticals from VLSI Design, Embedded System and Computing, Wired and Wireless Communication, Signal Processing, Artificial Intelligence and Machine Learning, Internet of Things.

CURRICULUM

- Revamped curriculum with state-of-the-art courses in Signal Processing, Machine Learning, and various specializations
- Year-long project work leading to innovative technologies and publications in premier conferences and journals

Research Areas

- ASIC and FPGA based System Design
- Novel Architectures for VLSI Data Converters
- Reconfigurable Architectures
- Hardware Accelerators
- Continuous-Time and Switched Capacitor Filters
- Nano-Scale Devices
- RF Circuit Modelling & Optimization
- mm Wave Integrated Circuits
- Smart Antennas
- Detection And Prevention of Hardware Trojans in Processors/IPs
- Hardware Solutions for Image and Video Coding and Embedded Systems

Core Subjects

- Digital Audio Processing
- Digital Image and Video Processing
- Machine Learning
- Adaptive Signal Processing
- DSP Architecture

Program Elective Subjects

- Biomedical Signal Processing
- Voice and Data Networks
- Modeling, Simulation and Optimization
- Remote Sensing and Multispectral Signal Analysis
- Artificial Intelligence
- Signal processing for Communication Systems
- Joint Time Frequency Analysis
- Signal Acquisition devices and Systems
- Signal Processing for Surveillance Systems

The curriculum has been designed in line with the requirements for current industrial requirement which are in line with the designed POs.

Curriculum Structure

Placement Opputunity

- Intel Corporation
- Texas Instruments
- Seagate Technology
- Cadence Design Systems
- NXP Semiconductors
- Synopsys
- Xilinx AMD Incorporation
- SingularityAIX
- Marvell India Pvt. Ltd.
- Ampere Computing
- Imagination Technologies India Private Limited
- SiFive Incorporation
- Mercedes Benz Research and Development India
- Hella Automotive India
- Philips
- Whirlpool Corporation
- Leapfrog
- ESCI-COM India Pvt. Ltd
- Infineon Technologies India Private Ltd
- Endurance Technologies Ltd
- Forvia Faurecia India Pvt. Ltd.

The Department has 3 Center of Excellence (COE)

- COE Signal & Image Processing
- 5G Lab
- COEAEM

Center of Excellence in Signal & Image Processing

It is an R & D establishment of all Circuit branches of the Institute, with Department of Electronics and Telecommunication driving the whole initiative. With the funds of Rs. 5.00 crores from MHRD-World bank under Project TEQIP Phase-II, the Center has an objective of pursuing fundamental and applied research & development across wide spectrum of signal processing applications, with the focus on cutting edge technologies.

Specific Areas of Research & Development:

- Multimedia-Multidimensional Signal Processing spanning from text, document, graphics and animation through speech, audio, image and video signals
- Signal Analysis and Decision support systems for biological/biomedical/genomic, Automotive/industrial and metallographic signals
- Signal Processing Applications in Biomedical /Military /RF /Microwave /Optical Communication /5G
- DSP/Reconfigurable/Full custom VLSI Hardware Technologies for Signal/Image Processing Applications Development

Bharat Lab 5G

Established in 2024 (Sponsored by Govt. of India). The applications focused in the 5G lab cases includes transport, safety, environmental protection, data and media services, development of testbeds and standardization for new applications.

COEAEM

It aims to provide trained manpower in SMT line production process which is the need of electronic manufacturing Industry today. The basic and advanced SMT Line training will be given to the students and practicing engineers in the industry for up skilling the domain knowledge. Supports new start ups and small/medium electronic manufacturing industries to prepare prototype of their product and supporting the Make in India Initiative. A unique facility available in the academic institute in the state of Maharashtra. The centre has state of art SMT production line setup, ICT enabled training hall and conference hall.