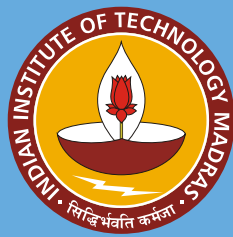
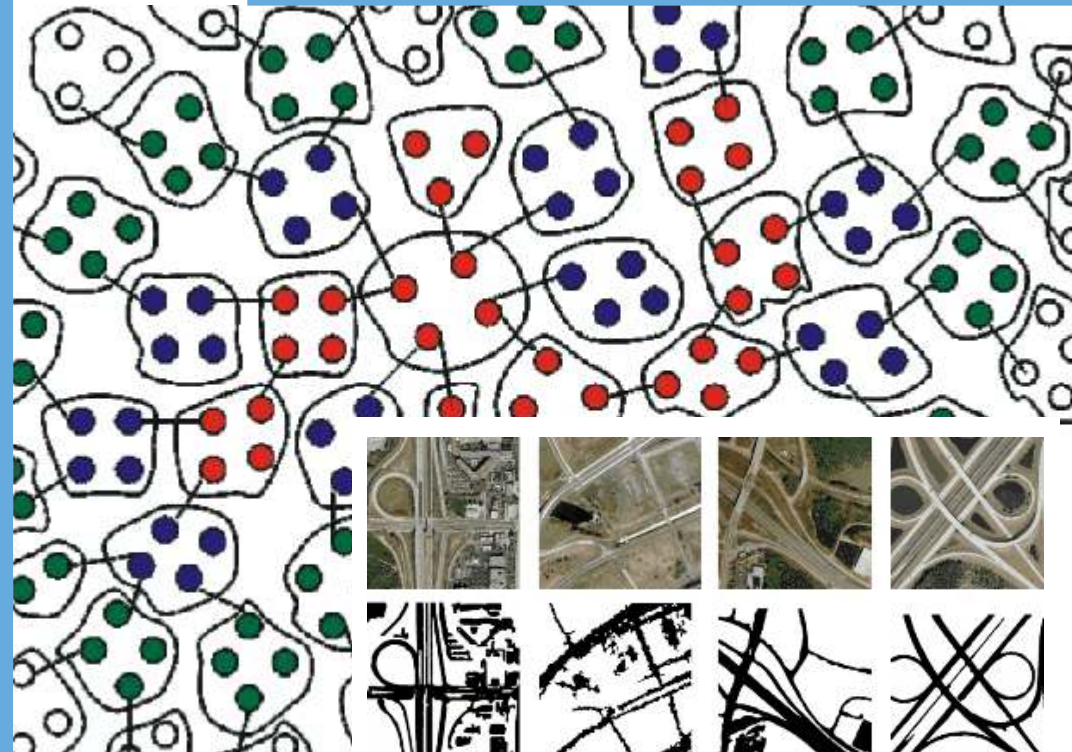




IIT Madras, Chennai



DEPARTMENT OF
**Computer Science and
Engineering**



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Striving for Global Excellence
and Local Relevance

INTRODUCTION

The Department of Computer Science and Engineering at IIT Madras strives for global excellence and local relevance in research, teaching, and technology development. The Department was started as the Computer Centre in 1973 with the acquisition of an IBM 370, perhaps the most powerful computer in India at that time. It offered M.Tech, M.S and PhD degree programmes. The B.Tech degree programme was started in 1983.

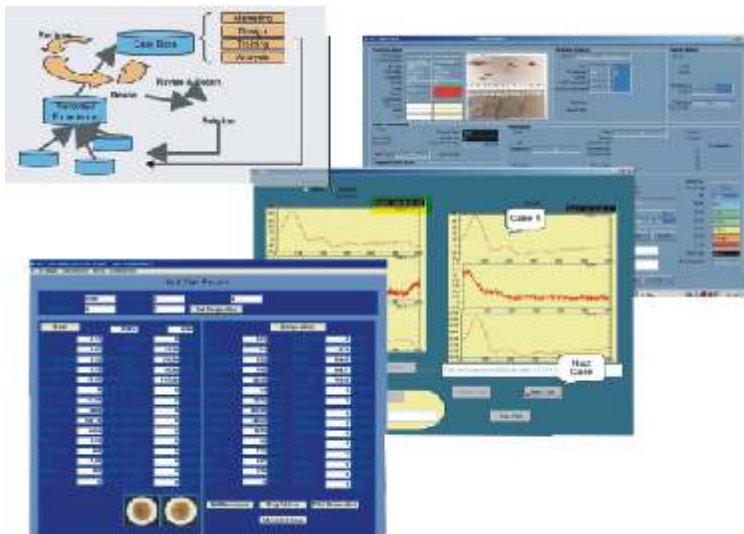
Today the Department has a vibrant student body numbering about 500. Over 60% are postgraduate, mostly supported by scholarships. The Department also offers several attractive industry-sponsored fellowships for outstanding PhD scholars and liberally supports participation in top-ranking international conferences. Over 50 full-time engineers work on R&D projects enriching the academic environment.

The department is actively engaged in research activities in the following areas.

- Intelligent Systems and Knowledge Engineering
- Hardware Systems
- Human Computer Interaction
- Networks and Distributed Systems
- Theoretical Computer Science
- Programming Languages, Compilers and Software Engineering

INTELLIGENT SYSTEMS & KNOWLEDGE ENGINEERING

Artificial Intelligence, Natural Language Processing, Machine Learning, XML and Semi-structured Databases, Semantic Web, Ontologies, Data Mining, Information Retrieval, Memory Based Reasoning, and Social Network Analysis.



HARDWARE SYSTEMS

Computer Architecture, software aspects of VLSI design, design for testability, secure systems engineering, and reconfigurable hardware design.



HUMAN COMPUTER INTERFACE



Computer Vision

Image Processing

Multimodal Interfaces
especially for Indian Languages

Speech Recognition and
Synthesis

NETWORKS AND DISTRIBUTED SYSTEMS

Wireless Networks, Optical Networks, Network Security, Network Management Systems, Grid Computing, Distributed/Mobile Object Systems, Traffic modeling, Web based Software Systems, Software Defined Networking, Cloud and Data Centre Networking.

THEORETICAL COMPUTER SCIENCE

Design & Analysis of Algorithms, Computational Complexity Theory, Cryptography, Distributed Algorithms, Graph Theory, Unconventional Models of Computing, Cellular Automata, and Computational Geometry.

PROGRAMMING LANGUAGES, COMPILERS AND SOFTWARE ENGINEERING

Design of Programming Languages, Compiler Optimizations, Multicore Systems, Program Analysis and Modular Software Design.