



**Indian
Institute of
Technology
Patna**

**भारतीय
प्रौद्योगिकी
संस्थान
पटना**



MATHEMATICS AND COMPUTING
M.Tech Placement Brochure
(2018-2020)

We shape the leaders, thinkers and change-makers of tomorrow.

About Us

Mathematics and Computing is an amalgamation of Mathematics and Computer Science. Through robust coursework in computational mathematics and computer science, this program is designed to provide students with the knowledge and skills necessary for a professional career or higher studies. This is done through coursework in mathematical modeling, scientific computing, advanced computational algorithms, and application field etc.

The rigour of pure mathematics coupled with the most flexible elective driven structure in the institute gives the students an ample opportunity to hone their skills in varied fields of interests ranging from data analytics, computer science, computational mathematics, optimization, parallel computing to statistics, finance and other applied fields. The courses offered here are taken by professors who are leading researchers in that field.

Courses Offered

Core Course

- **Database Management System and Data mining**
- **Design And Analysis Of Algorithm**
- **Probability , Statistics And Stochastic Process**
- **Technical Communication**
- **Numerical Optimization**
- **Computational Differential Equations**

LAB

- **Simulation Lab in R**
- **Data Structure and Algorithms lab in C**

SEMINAR

M. TECH THESIS

Elective Course

- **Introduction to Machine Learning**
- **Introduction To Deep Learning**
- **Natural Language Processing**
- **Introduction to Big Data**
- **Formal Methods For Analysis and Verification**
- **Introduction to Network Science**
- **Artificial Intelligence**
- **Graph Theory**

Research Labs

- **Elsevier Centre for Excellence of Natural Language Processing**
- **Shusrut: ezDI Research Lab on Health Informatics**
- **Advanced Computing Lab**
- **Network Security Lab**
- **SPWICOM (Signal Processing For Wireless Communication)**
- **Statistics Lab**

On Going Projects

- Machine learning application to security
- Emotion and sentiment analysis using neural nets
- Multimodal emotion and sentiment analysis using deep learning
- Reinforcement learning
- Deep metric learning
- Development of efficient dialogue management strategy for building chat bots
- Embedding in signed networks
- Deciding whether two problems are similar enough to share the same optimization landscape in non convex setting
- Numerical analysis for two dimensional system of singularly perturbed differential equation and their simulation
- Wavelets and their applications on PDEs
- Mathematical modelling in ecology
- Reliability inference

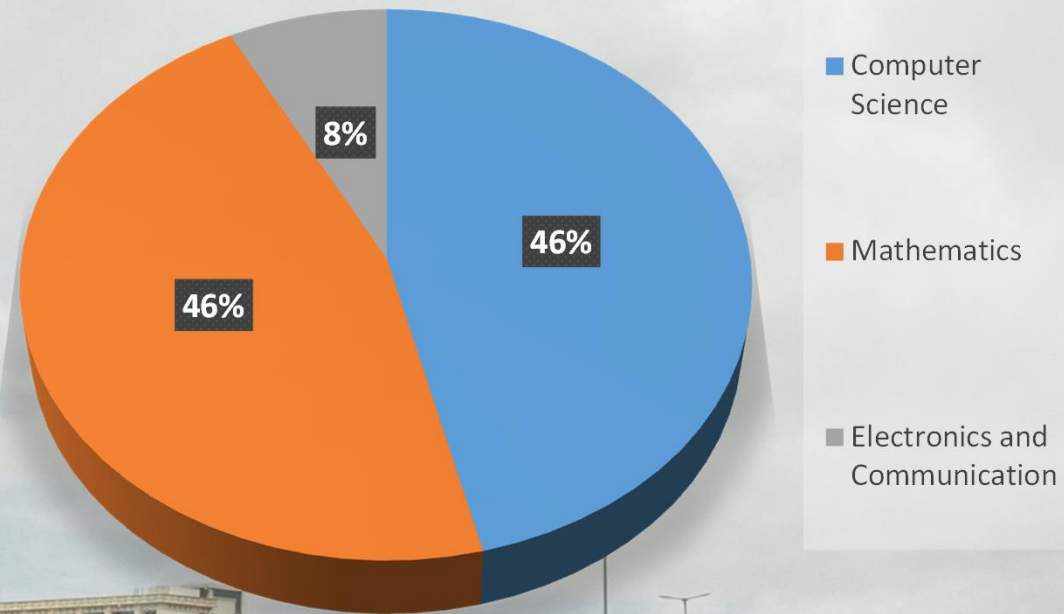
Paper Published

- **Arjun Roy** (M.Tech 2017-19), **Kingshuk Basak**, **Asif Ekbal** and **Pushpak Bhattacharyya** (2019). **“A Deep Ensemble Framework for Fake News Detection and Classification”**. CICLing 2019.
- **Sovan Kumar Sahoo**, **Saumajit Saha** (M.Tech 2017-19), **Asif Ekbal**, **Pushpak Bhattacharyya** and **Jimson Mathew** (2019). **“Event-Argument Linking in Hindi for Information Extraction in Disaster Domain”**. CICLing 2019.
- **Suyash Sangwan**(M.Tech 2017-19), **Raksha Sharma**, **Girish Palshikar**, **Asif Ekbal**. **“Cold is a Disease and D-cold is a Drug: Identifying Biological Types of Entities in the Biomedical Domain”**. CICLing 2019.
- **Pracheta Sahoo** (M.Tech 2014-16) published a research paper **“Analysing Structured Scholarly Data Embedded in Web Pages”** with **Dr.Sriparna Saha** (IIT Patna)and **Dr. Stefan Dietze** (L3S Research Lab, Hannover)
- **Amit Kumar**(M.Tech 2014-16) published a research paper **"Beyond Sentiment Lexicon combining Domain dependency and distributional semantic features for aspect based sentiment analysis"** with **Dr. Asif Ekbal**(IIT Patna) and **Chris Biemann**

Achievements of Students

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- Our student got selected in DAAD IIT Master Sandwich Program.
 - Our students have good contribution in Research as well as in Industrial area.
 - Some of our students grab the opportunity for higher studies at well know Foreign as well as Indian University (eg. University of Dallas, USA)
 - Some are also contributing to government sector.

Student B. Tech background



Contact Us

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