

MATHEMATICS & COMPUTING



Placement Brochure

2023-2024



CENTER FOR CAREER DEVELOPMENT

INDIAN INSTITUTE OF TECHNOLOGY PATNA

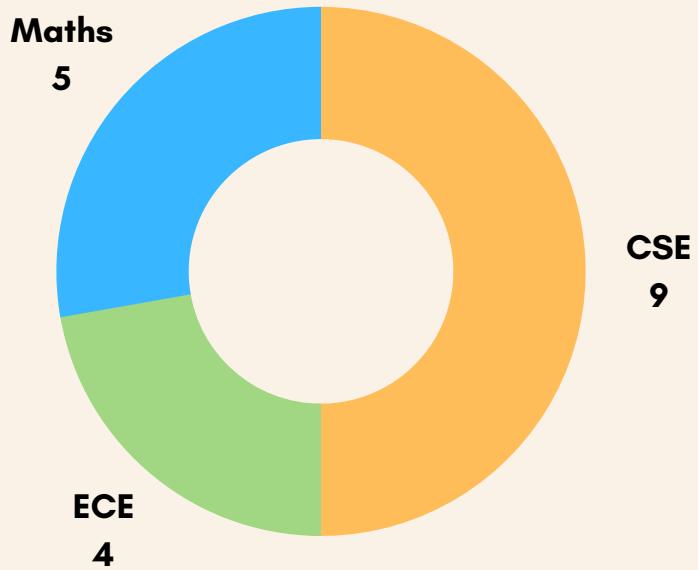
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ABOUT US

Mathematics and Computing is a 2012 initiative that combines mathematics and computer science. This course is invaluable to aspiring engineers because it covers the primary areas in demand today. The course gives students a thorough theoretical foundation in computer science and numerical computing. This programme was created in response to the growing demand for complex mathematics in modern scientific research and technological breakthroughs. With students from diverse backgrounds in Computer science, Mathematics, Electronics and Communication, We truly fulfil the demands of the growing inter-disciplinary world.

DIVERSITY OF BACKGROUNDS



GENDER RATIO



MESSAGE FROM THE HOD

**DR. PRASHANT KUMAR SHRIVASTAVA
HEAD, DEPT. OF MATHEMATICS**

Email: math_head@iitp.ac.in



"IIT Patna's Department of Mathematics is fortunate to be one of the top destinations for the country's brightest students."

They study a uniquely designed curriculum featuring a proper amalgamation of Mathematics and Computer Science courses, which helps students bloom their analytical, mathematical, and computational skills. All Mathematics courses are designed to address the demand for complex mathematics in modern scientific research and technological advancements. We want to create mathematically inclined workers who are constantly prepared to compete globally.

Students recruited from the Department of Mathematics at IIT Patna have already been shown to be valuable resources for the academic institutions or corporate firms they have joined. Despite the challenging conditions caused by the epidemic, I am confident that our current batch of MSc, MTech, and PhD students will uphold the same high ideals and prove themselves worthy of the organisations they will join.

I take great pleasure in inviting recruiters for our graduating students from the Department of Mathematics on behalf of the department, and I hope the future placement programme great success.

COURSE AND CURRICULUM

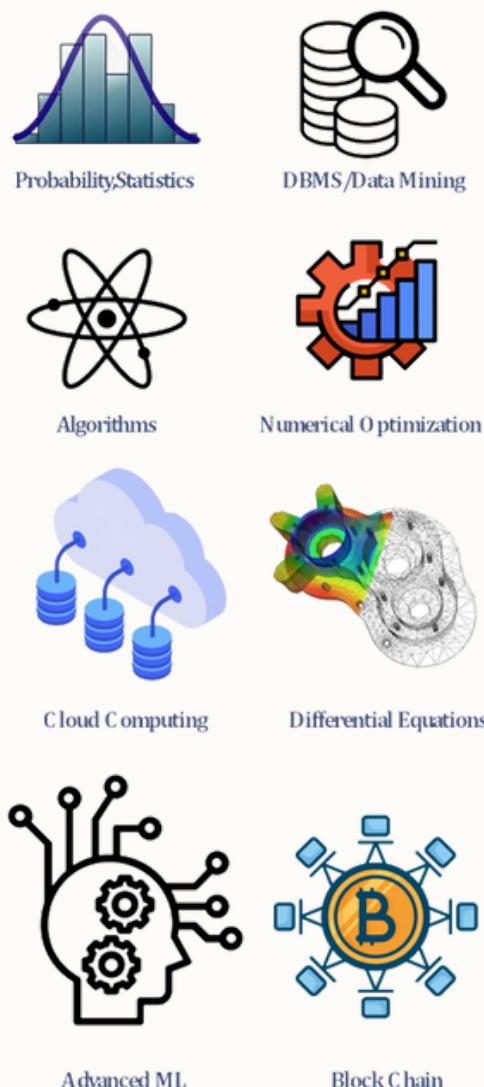
The programme is aimed to give students with an in-depth theoretical grounding as well as practical training in mathematical modelling, computer science, numerical computing, advanced computational algorithms, and application fields, which are required for a professional career or higher education. The rigour of mathematics, combined with the institute's most flexible elective-driven structure, provides students with ample opportunity to hone their skills in diverse fields of interest ranging from data analytics, computer science, computational mathematics, optimisation, and parallel computing to statistics, finance, and other applied fields. Professors who are prominent researchers in their fields teach the courses offered here.

Core Courses

- DESIGN, AND ANALYSIS OF ALGORITHM.
- DATABASE AND DATA MINING.
- PROBABILITY, STATISTICS & STOCHASTIC PROCESS.
- NUMERICAL OPTIMIZATION.
- COMPUTATIONAL DIFFERENTIAL EQUATIONS.
- TECHNICAL COMMUNICATION.

Labs

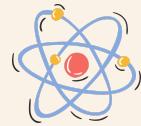
- SIMULATION IN R.
- DATA STRUCTURE & ALGORITHM LAB IN C.



Elective Courses

- MACHINE LEARNING.
- ARTIFICIAL INTELLIGENCE.
- INTRODUCTION TO DEEP LEARNING.
- INTRODUCTION TO BLOCKCHAIN.
- NATURAL LANGUAGE PROCESSING.
- CLOUD IOT & EDGE ML.
- MATHEMATICAL MODELLING.
- ADVANCES IN ALGORITHM.
- CYBER SECURITY WITH BLOCKCHAIN.
- COMPUTER SECURITY.
- FORMAL METHODS FOR ANALYSIS AND VERIFICATION.

RESEARCH LABS



- 1 Elsevier Centre for Excellence of Natural Language Processing
- 2 Shusrut: ezDI Research Lab on Health Informatics
- 3 Data Analytics & Network Science (DANeS) Lab, IIT Patna
- 4 Network Security Lab



TECHNICAL ACTIVITIES

An active computer science student club, that regularly organizes classes for the students and teaches them topics - like Ethical Hacking, Competitive Coding, Machine Learning, Android Development and many more.



IEEE Student Branch of IT Patna opened with a group of students enrolled in various M.Tech and Ph.D. Courses with a view to promoting technical activities in the campus, city, and the state of Bihar.

FACULTY TALKS

Dr Asif Ekbal (Course Instructor: Artificial Intelligence, Natural Language Processing)

Developing technologies related to the areas has been at the forefront of many multinational R&D companies, such as Google, Amazon, Microsoft etc. Several academic institutions all over the world such as Stanford, MIT, UC Berkley, Darmstadt University, University of Aachen, Edinburgh University, Cambridge University in Europe and UK; NUS, NTNU, Tokyo University in Asia; and IISC Bangalore and Top IITs in India have been involved in active research and development in these areas. Govt. of India has been promoting Research and Development with the vision of digital unity and knowledge for all, especially in Indian languages. The artificial Intelligence-Natural Language Processing-Machine Learning (AINLP-ML) research group at IIT Patna has been pursuing extensive research and development in the broad areas of AI, NLP and ML, and showcasing its presence at national and international levels. It has established itself as a leading institution of Research and Development by publishing its research in well-claimed journals and conferences and undertaking important R&D projects duly sponsored by various Government agencies such as MeITY, SERB, DRDO, and MHRD. Industries such as Elsevier, Accenture, LG Soft, Samsung Research, Honeywell, Wipro etc; and representing several national and international bodies.



DR. ASIF EKBAL
DEPT. OF COMPUTER SCIENCE & ENGINEERING



DR. RAJIV MISHRA
HEAD,
DEPT. OF COMPUTER SCIENCE & ENGINEERING

Dr Rajiv Mishra (Course Instructor: Big Data Computing, Cloud IoT and Edge ML)

The MTech program in Mathematics and Computing jointly run by Mathematics and Computer Science Department at IIT Patna offers a unique curriculum of Mathematics and Computer Science with Industry relevance. The courses such as -Numerical Optimization, AI, Big Data, and Cloud become important over time and cater to applications in the area of engineering, finance, and science. Post-graduate candidates are trained to cater needs of the industry with requisite skills of both analytical and computational to solve practical problems of society. I am sure that they will excel in every walk of life.



DR. BALENDU BHOOSHAN UPADHYAY
DEPT.OF MATHEMATICS

Dr . Balendu Bhooshan Upadhyay (Course instructor Numerical Optimization):

The course "Mathematics and Computing" is among the most successful courses offered by IIT Patna at the postgraduate level. We are continuously trying to upgrade our curriculum to meet the demand of industry. Our Alumni are excelling in academia as well as industry. I wish them all the best in every walk of life.



SOMANATH TRIPATHY
DEPT. OF COMPUTER SCIENCE & ENGINEERING

Somanath Tripathy (Course Instructor: Foundation of Computer Security, Cryptography, Cyber Security with Blockchain).

M. Tech (Mathematics & Computing) is a popular PG program jointly offered by the Department of Mathematics and the Department of Computer Science & Eng., IIT Patna. Besides the core courses, many interesting Elective courses on cutting-edge technologies including Cryptography, Cyber Security, Blockchain, Advance Machine learning, and Big data are offered. So students get better opportunities for industry placements and higher learning as well. I believe it is a successful program.



DR. PRASHANT KUMAR SRIVASTAVA
HEAD,
DEPT. OF MATHEMATICS

Dr Prashant Kumar Srivastava (Course Instructor: Computational Differential Equations):

The program in M&C is one of the important MTech programs where candidates are trained to cater needs of the industry which require both analytical and computational skills of the candidate. The courses on Computational differential equations and Numerical Optimization are very important as these courses can provide a base for application in any area of engineering, finance and science Mathematical modeling on the other hand provides a comprehensive understanding of relating real-world systems mathematically and draw insightful conclusions. Almost all students get a fair amount of exposure to courses in both Mathematics and Computer Science, which will make them an asset to any organization. Overall, this program is very useful to both industry and academia. I am sure that our students will be leaders of the future, wherever they go.

ALUMNI



Ms. Pracheta Sahoo (2014 - 2016)
Co-Founder at AidMedX
Currently pursuing PhD Computer
Science, The University of Texas at
Dallas



Mr. Shivesh Kumar Roy (2017-2019)
Currently Pursuing PhD (Fully Funded),
Algorithms Group at Eindhoven University of
Technology, Netherlands.



Tama Ray Chowdhury
(2020-22)
Data Scientist, Intel



Sourajit Mukherjee
(2020-22)
AI Researcher, American Express



Nilamadhaba Mohapatra
(2015-2017)
Data Science Lead, Tekion Corp



Mr. Anindya S. Das (2018-2020)
Currently : Senior Research Engineer, LG Soft
DAAD KOSPIE Fellow (TU Darmstadt),
Previously Research Intern TCS R&I Labs
(TRDDC)



Mr. Vikas Rai(2019-2021)
SWE Optum UHG
Internship : STMicroelectronics

CURRENT BATCH



Garima Bansal

Project Title : Text anomaly detection via self supervision of transformers



Gaurav Phalkey

Project Title: Statistical Inference, prediction and optimal design of lifetime distributions



Himanshu Ranjan

Project Title : Indian made video conferencing platform



Kiran Kumar Dugana

Project Title : Conversational agents



Nanda Gopal Naskar

Project title : Neural Networks for solving a generalized convex optimization problem



Savara Kalyan

Project Title: Domain adaption using deep transfer learning

CURRENT BATCH



Shourya Srivastava

Project Title : Network security using machine learning and deep learning



Sojitra Daivik

Project Title : Multi-modal movie recommendation system



Konika Mondal

Project Title: NLP application in financial domain



Neetu Suthar

Project Title: Machine learning for security dataset



Nikhil Deo Srivastava

Project Title: AI-based 6G network slicing for Consumer Internet of Drone Things System



Nikunj Pansari

Project Title: Detecting IoT attacks using Ensemble machine learning



CURRENT BATCH



Prithwiraj Sinha

Project Title: Post Quantum Cryptography



Vicky Kumar

Project Title: AI-based 6G network slicing with multi UAV



Sushil Kumar

Project Title : Analysis of Normalization layer in deep architecture



Bhoopendra Kumar

Project Title: End-to-end network slicing in vehicular edge computing



Supon Mazumdar

Project Title : Cross Domain Visual Data analysis



SK Salim Ali

Project Title: Robust Optimization in biochemical process



2023 PASSOUTS



Rutuj Waghare
SDE
Rakuten Japan



Ankit Kumar
SDE
Success Number



Atul Prakash
Design Engineer
NXP Semiconductors



Kumar Anubhau
SDE
Cognam Technologies



Amit Kumar Singh
Polytechnic Lecturer
Gout. of UP



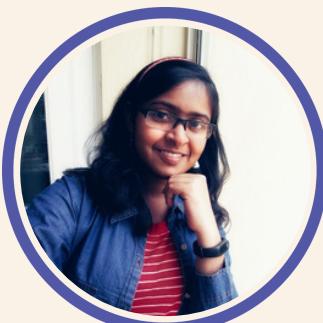
Omkar Gauhane
SDE
Samsung



Jagdish Mohekar
Data Scientist
Intel



Subrat Mohanty
SDE
Rakuten Japan



Ritika Sinha
Member(Research Staff)
BEL India



Suman Saurabh
Data Scientist
NXP Semiconductors



Anubhau Sinha
Member(Research Staff)
BEL India



Vivek Gangwar
SDE
Amazon

PAST RECRUITERS

COMMVAULT



Arcesium



DELHIVERY



Deloitte.



BYJU'S

BANK OF AMERICA



MathWorks

Avalara



FINISAR



Cognizant

Capgemini

NOVARTIS



SIEMENS



MARVELL



amazon.com

Google

Microsoft

DEShaw & Co

RIPPLING

sprinklr

<CODE_NATION>

Direct*i*

AlphaGrep



intuit

Flipkart

SAMSUNG



cisco

Morgan Stanley

IBM

ARISTA



TPC OFFICIALS



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