MATHEMATICS AND COMPUTING PLACEMENT BROCHURE 2022 - 2023

INDIAN INSTITUTE OF TECHNOLOGY PATNA

विद्यार्थी लभते विद्यां

ABOUT US

Mathematics and Computing is an amalgamation of Mathematics with Computer science, started in the year 2012. Covering the major areas in demand today, this course is of utmost value to aspiring engineers. The course provides students with comprehensive theoretical training in Computer science and numerical computing. This program has been introduced due to the need for sophisticated mathematics for modern scientific investigation and technological developments.

CURRICULUM

The curriculum is designed to provide students with an in-depth theoretical background and practical training in mathematical modeling, computer science, numerical computing, advance computational algorithm, and application field, necessary for a professional career or higher education. The rigor of mathematics coupled with the most flexible elective-driven structure in the institute gives the students ample opportunity to hone their skills in varied fields of interest ranging from data analytics, computer science, computational mathematics, optimization, and parallel computing to statistics, finance, and other applied fields. The courses offered here are taken by professors who are leading researchers in their domain.

MESSAGE FROM HOD

DR. NUTAN KUMAR TOMAR
HEAD, DEPT. OF MATHEMATICS
Email: math_head@iitp.ac.in

Department of Mathematics, IIT Patna, is fortunate to be one of the top destinations for the country's brightest students. Once they are in the department, they study a specially designed curriculum containing a proper amalgamation of Mathematics and Computer Science courses which helps them flourish their analytical, mathematical, and computational skills. All Mathematics courses are designed to meet the need for sophisticated mathematics in modern scientific investigations and technological innovations. Our aim is to produce mathematically inclined professionals who are always ready to compete globally.

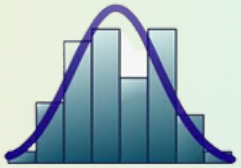
In the past, students recruited from the Department of Mathematics, IIT Patna, have proved to be valued resources for the academic institutes or business companies they have joined. I am confident that despite the adverse conditions due to the ongoing pandemic, our current batch of MSc, MTech, and Ph.D. would uphold the same high values and prove themselves worthy of the organizations they will join.

On behalf of the department, I take great pleasure in inviting recruiters for our graduating students from the Department of Mathematics and wish the upcoming placement program a great success.

COURSES

Core Courses

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



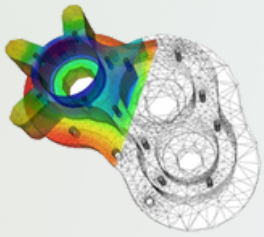
Probability,Statistics

DBMS/Data Mining

Algorithms

Numerical Optimization

Cloud Computing



Differential Equations

Advanced ML

Block Chain

Labs

SIMULATION IN R.

DATA STRUCTURE & ALGORITHM LAB IN C.

Elective Courses

- MACHINE LEARNING.
- ARTIFICIAL INTELLIGENCE.
- INTRODUCTION TO DEEP LEARNING.
- BLOCKCHAIN.
- NATURAL LANGUAGE PROCESSING.
- CLOUD COMPUTING.
- ADVANCED MACHINE LEARNING.
- ADVANCES IN ALGORITHM.
- NETWORK SCIENCE.
- CRYPTOGRAPHY WIRELESS NETWORKS.
- 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.

jack

IEEE
Advancing Technology for Humanity

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 in the forefront of many multinational R&D companies, such as Google, Amazon, Microsoft etc.
- Several academic institutions all over in 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 unite and knowledge for all, especially in Indian languages.
- 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 both national and international levels.
- It has established itself as a leading institution of Research and Development by publishing its research in the wellacclaimed journals and conferences, undertaking important R&D projects duly sponsored by the various Government agencies such as MeITY, SERB, DRDO, MHRD.
- Industries such as Elsevier, Accenture, LG Soft, Samsung Research, Honeywell, Wipro etc; and representing several national and international bodies.
- As per the CS ranking (http://csrankings.org/#/fromyear/2015/toyear/2020/index?nlp&asia),it ranks 14th in Asia and 1st in India for Natural Language Processing research in terms of publications during the last 5 years (2015-2020)

DR. ASIF EKBAL
DEPT. OF COMPUTER SCIENCE & ENGINEERING

DR. RAJIV MISHRA
DEPT. OF COMPUTER SCIENCE & ENGINEERING

Dr. Rajiv Mishra (Course Instructor: Big Data Computing, Cloud Computing)

- 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 becomes importance of time which caters to application 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.

FACULTY TALKS

Dr . Balendu Bhooshan Upadhyay

(Course instructor Numerical Optimization) :

The course "Mathematics and Computing" is among the most successful courses offered by IIT Patna at post graduate 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.

DR. BALENDU BHOOSHAN UPADHYAY
DEPT.OF MATHEMATICS

SOMANATH TRIPATHY
DEPT. OF COMPUTER SCIENCE & ENGINEERING

Somanath Tripathy

(Course Instructor: Foundation of Computer Security, Cryptography, Cyber Security with Block chain).

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

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.

DR. PRASHANT KUMAR SRIVASTAVA
DEPT. OF MATHEMATICS

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 Techology, Netherlands.

Mr.Abhishek Kumar (2019-2021)
SDE at Intel
Internship : IOTG Intern, Intel

Mr.Arjun Roy (2017-2019)
DAAD Scholarship 2018
Researcher at L3S Research Center, Germany

Mr.Susheel Kumar Maurya
(2018-2020)
Software Development Engineer at Intel

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

2022 PASSOUTS

Ms. Snighda Bardhan (2020 - 2022)
Current Status: Mercedes Benz
Research & Development India

Mr. Avinash Singh (2020 - 2022)
Current Status: Mercedes Benz
Research & Development India

Mr. Sourajit Mukherjee (2020-2022)
Current Status: Tata Research &
Innovation Labs

Mr. Saurabh Katkar (2020-2022)
Current Status: Optum (UHG)

Mr. Mohit Kumar (2020-2022)
Current Status: App Orchid

Ms. Tama Ray Chowdhury (2020-2022)
Current Status: Intel and Optum

Mr. Sufal Sikder (2020 - 2022)
Current Status: Optum

Mr. Pankaj Chahal (2020-2022)
Current Status: Samsung R&D

Mr. Shivam Kumar (2020-2022)
Current Status: Cognam Technology

Mr. B Shravan Naik (2020-2022)
Current Status: Optum

INTERNSHIPS

PLACEMENTS

CURRENT BATCH

Rutuj Waghare

Ankit Kumar

Atul Prakash

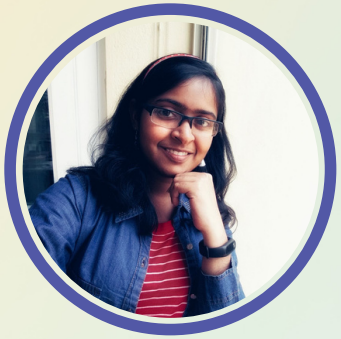
Kumar Anubhav

Amit Kumar Singh

Omkar Gavhane

Jagdish Mohekar

Subrat Mohanty



Ritika Sinha

Suman Saurabh

Anubhav Sinha

Vivek Gangwar

TPC OFFICIALS

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