

विद्यार्थी लभते विद्याम्



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# INDIAN INSTITUTE OF TECHNOLOGY PATNA

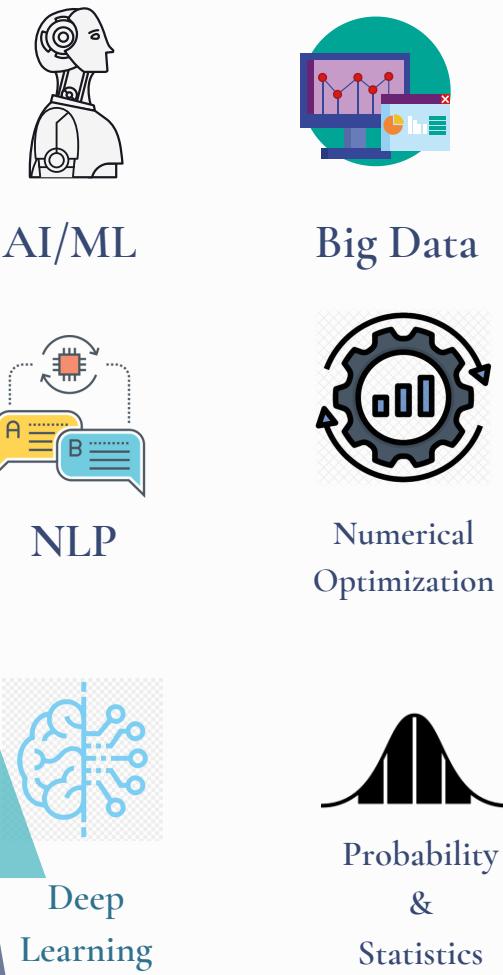
Raising leaders since 2008

## MATHEMATICS AND COMPUTING PLACEMENT BROCHURE

2021 - 2022

## ABOUT US

**Mathematics & Computing Engineering** 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 the aspiring engineers. The course provides students with comprehensive theoretical knowledge and also practical training in Computer science and numerical computing. This program has been introduced due to the need for sophisticated mathematics for modern scientific investigations and technological developments.



## Curriculum

The curriculum is designed to provide students with an indepth 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. The rigor 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 their domain.

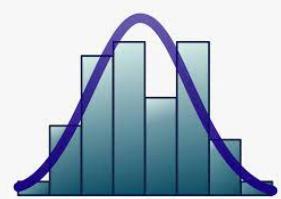
# COURSES

## CORE COURSES

- Database and Data Mining
- Probability, Statistics & Stochastic Process
- Design And Analysis Of Algorithm
- Numerical Optimization and Programming
- Computational Differential Equations
- Technical Communication

## Labs

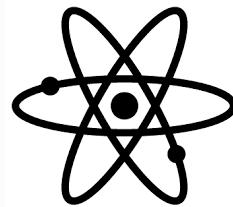
- Simulation in R
- Data Structure & Algorithm Lab in C



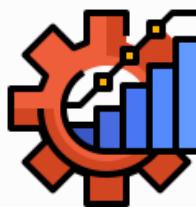
Probability,Statistics



DBMS/Data Mining



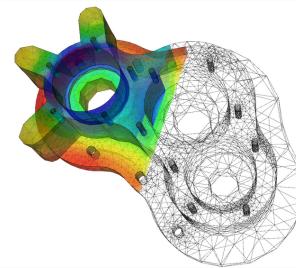
Algorithms



Numerical Optimization



Cloud Computing



Differential Equations



Advanced ML



Block Chain

## ELECTIVE COURSES

- Advances in Algorithm
- Artificial Intelligence
- Formal Methods For Analysis and Verification
- Natural Language Processing
- Introduction To Deep Learning
- Machine Learning
- Advance Machine Learning
- Network Science
- Cloud Computing
- Cryptography
- Wireless Networks
- Block Chain
- Robotics



# RESEARCH LABS



- Elsevier Centre for Excellence of Natural Language Processing
- Shusrut: ezDI Research Lab on Health Informatics
- Data Analytics & Network Science (DANeS) Lab, IIT Patna
- Network Security Lab
- SPWICOM (Signal Processing For Wireless Communication)
- Statistics 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 IIT Patna opened with a group of students enrolled in various M.Tech and Phd. Courses with a view to promote technical activities in the campus, city and the state of Bihar.

# FACULTY TALKS



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

The fields of Artificial Intelligence, Natural Language

Processing and Machine Learning have created enormous opportunities, and have brought a lot of excitement. Developing technologies related to the areas has been in the forefront of many multinational R&D companies, such as Google, Amazon, Microsoft, Facebook, IBM, Uber etc. Several academic institutions all over in the world such as Stanford, MIT, UC Berkley, USA; DFKI, Darmstadt University, University of Aachen, Edinburgh University, Cambridge University in Europe and UK; NUS, NTNU, Kyoto University, Tokyo University in Asia; and IIT Bombay, IISC Bangalore, IIIT Hyderabad, IIT Madras, IIT Kanpur, IIT Delhi, IIT Kharagpur etc 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; and 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)

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## Dr. RAJIV MISHRA

Dept. of Computer Science  
and 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 unique curriculum of Mathematics and Computer Science with Industry relevance. The courses such as -Numerical Optimization, AI, Big data, Cloud becomes importance of time which caters to application in area of engineering, finance and science. Post-graduate candidates are trained to cater need of 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 Rajiv Misra, Department of Computer Science & Engineering

# 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

“ Dr . Subhabrata Paul  
(MTech. Course Coordinator) :  
The course of MTech in Mathematics & Computing is designed for the students having different backgrounds to learn essential analytic and computing skills. Over the last few years, the students of this course have been well placed in highly reputed companies with good packages. Also, this course motivates students in research and many of our students are currently pursuing PhDs in India as well as in abroad.



**Dr. Subhabrata Paul**  
Dept. of Mathematics



**Dr. Prashant Kumar Srivastava**  
Dept. of Mathematics

“ Dr. Prashant Kumar Srivastava  
(Vice-Chairman JEE Advance)  
(Course Instructor : Numerical Optimization & Computational Differential Equations) :  
The program in M&C is one of important MTech programs where candidates are trained to cater need of 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 base to 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 fair amount of exposure to courses from both Mathematics and Computer Science, which will make them an asset to any organisation.

# ALUMNI



**Ms. Pracheta Sahoo**  
**(2014 - 2016)**

Co-Founder at AidMedX

Currently pursuing PhD Computer Science,  
The University of Texas at Dallas



**Ms. Surabhi Kumari**  
**(2016-2018)**

Researcher, NLP and Deep Learning at  
TCS Research and Innovation Labs



**Mr. Saumajit Saha**  
**(2017-2019)**

Internship: TCS Research and Innovation Lab  
Current Status: Researcher in TCS Research and  
Innovation Lab (TRDDC Pune)



**Mr. Shivesh Kumar Roy**  
**(2017-2019)**

Currently Pursuing PhD (Fully Funded), Algorithms Group at  
Eindhoven University of Technology, Netherlands.  
selected for Master's Internship Program in NetApp's  
Advanced Technology Group.



**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. Abhishek Kumar**  
**( 2019-2021 )**

Software Development Engineer at Intel  
Internship : IOTG Intern, Intel



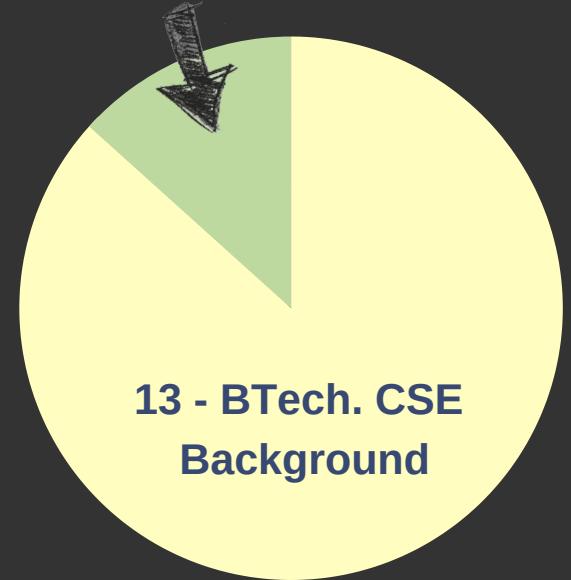
**Mr. Vikas Rai**  
**( 2019-2021 )**

Current Status: Incoming SWE Optum UHG  
Internship : STMicroelectronics

# Current Students



2 - Mathematics (M.Sc.)



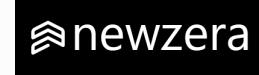
Student's Background

Several students successfully got internship offers from renowned companies for roles in Data Science, Analytics and Software Development domains.

# INTERNSHIPS



SIEMENS



# PAST RECRUITERS



# CONTACT US



## IIT PATNA TRAINING AND PLACEMENT CELL प्रशिक्षण एवं स्थानन प्रकोष्ठ



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## Student Representatives



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