

# ABHISHEK SHREE

Third Year Undergraduate · Economics  
Indian Institute of Technology Kanpur

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## EDUCATION

Year	Degree	Institution	Score
2024 †	B.S., ECO	Indian Institute of Technology Kanpur	8.8/10.0
2020	CBSE – XII	Loyola High School, Patna	95.2%
2018	CBSE – X	Loyola High School, Patna	98%

† : Expected year of graduation

## ACHIEVEMENTS

- Received the **Academic Excellence Award** for exceptional academic performance in 2020-21 academic session.
- Among the **top 25** teams(among 500+) in MIT's Battle-Code 2020 Scrimmaging Rounds.
- Among the **top 3%** of students in, JEE Advanced 2020.
- Among the **top 0.2%** of students, JEE Main 2020.
- Among the **top 10%** programmers on Hackerearth in 2017.
- Maintain well appreciated open source projects on GitHub.

## KEY PROJECTS

**Digital Alpha SaaS Analyser** Inter IIT Tech Meet 10.0  
🔗 SaaS-Analyzer March 2022

- Developed a scalable web app and an ML pipeline to analyze SEC filings and obtain SaaS metrics for companies.
- Parsed** relevant sections (10K, 10Q and 8K) of the SEC Filings using BeautifulSoup and some external APIs.
- Extracted SaaS metrics using NER, window search algorithm, used FinBERT (SOTA) to **analyze sentiments** along with section **summarization** using legal-pegasus.
- Developed Backend in **Flask** and **MongoDB**.
- Developed Frontend in **React**. Gave a modern look to UI using plugins like Chart.js to meet the problem statement.
- Won the **Silver Medal** contributing to the **overall 2nd position** of IIT Kanpur among 22 IITs.

**IITK Coin** Summer Project, Programming Club  
🔗 IITK-Coin May 2021 - December 2021

- Developed a Go and React-Native application for a centralised **pseudo-currency** system for use in IITK Campus.
- Built the UI using custom components, axios, secure-store and redux, allowing multiple states and app navigation.
- Involved Database Management, User **Authentication**, Hashing & Salting and User Session Validation with JWT.
- Built robust REST APIs to handle **concurrent** transactions and multi-level user permissions.

**MCMC Methods in Julia** Summer Project, Stamatatics  
🔗 MCMC-Methods-in-Julia April 2022 - June 2022

- Implemented sampling methods including Accept-Reject, Inverse Transform, Importance Sampling, etc.
- Learned the mathematics behind Bernoulli Factories, Bayesian Models, MLE, Regression, and Markov Chains.
- Implemented MCMC algorithms like Metropolis-Hastings, Gibbs Sampler, portkey Barker's algorithm, etc.

**Numbers Made Dumber** Semester Project, Stamatatics  
🔗 Numbers-Made-Dumber April 2021 - July 2021

- Learned and solved challenging problems about number-theoretic algorithms, prime numbers, and primality tests. Explored cryptography and group theory.
- Implemented the **RSA** Encryption Algorithm in **Haskell**.

## SKILLS

**Programming:** Go, Typescript, C++, Python, Julia

**Web:** Gin, Flask, Fiber, React.js, Next.js

**Databases:** PostgreSQL, MongoDB, Redis

**Misc:** Git, Bash, AWS, Docker Swarm, Nginx, ROS, L<sup>A</sup>T<sub>E</sub>X

## WORK EXPERIENCE

**Intern** April 2022 - June 2022  
Students' Placement Office

- Working

**Cybersecurity Engage Program** May 2022 - June 2022  
Microsoft

- Working

## POSITIONS OF RESPONSIBILITY

**Web Head, Students' Placement Office** IIT Kanpur  
India March 2022 - Present

- Leading a team of 6 Web Executives and Volunteers to work on the web stack at Students' Placement Office.
- Maintaining the organization's servers and VM, designed new infrastructure including the website, CDN, and portals.

**Team Head, Software Subsystem** AUV, IIT Kanpur  
India April 2021 - Present

- Leading a team of 50+ undergraduates to participate in international marine robotics competitions like RoboSub 2023 and SAUVC 2023.
- Responsible for improving software stack and design of our 3<sup>rd</sup> generation AUV-Tarang.
- Improved the team website, ranked **3<sup>rd</sup>** in **Robosub, 2021**.
- Utilized **Extended Kalman Filters** based SLAM algorithm to enhance pose estimation and navigation.
- Implemented and researched the efficiency of graph-based, probabilistic, and deep learning-based SLAM algorithms like FastSLAM and RatSLAM in underwater conditions.

**Secretary** Programming Club, IIT Kanpur  
India September 2021 - April 2022

- Among the **25** selected secretaries responsible for activities of the club.
- Wrote a blog series about the various low-level components of a Linux Distribution.

## RELEVANT COURSES

Game Theory & Mechanism Design<sup>p</sup> Real Analysis  
Probability & Statistics\* Fundamentals of Computing\*  
Linear Algebra & ODEs\* Introduction to Electronics\*  
p: PG Course \*: Perfect grade in the course

## EXTRACURRICULAR

- Mentored **30 students** in a project under Stamatatics, covering Number theoretic theorems and their applications.
- Helped **6 freshers** assimilate to IITK norms and **assisted** Counselling Service conducting Freshers' Orientation.
- Maintain a personal webpage and blog at abhishekshree.xyz