

ABHISHEK SHREE

Third Year Undergraduate · Economics
Indian Institute of Technology Kanpur

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EDUCATION

Year	Degree	Institution	Score
2020 - Present	B.S., Economics	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	98.0%

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 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

AUV, IIT Kanpur India
Software-Subsystem April 2021 - Present

- Improved the team website, ranked **3rd** 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

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

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

SKILLS

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

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

Databases: PostgreSQL, MongoDB, Redis

Misc: Git, Bash, AWS, Docker, Nginx, ROS, L^AT_EX

WORK EXPERIENCE

Product Engineer March 2022 - June 2022
Students' Placement Office

- Created Recruitment Automation System for use in IITK by about **500 companies** and **1700 students** in the coming recruitment phase this year
- Enhanced security and achieved an **improvement** in response time by approximately **60%**.
- Designed a Microservices and Relational Databases based solution using keys and indexes to remove data redundancy
- Spearheaded** a team of 2 Lead and 6 Junior developers
- Built the backend with more than 150 multi-level user privilege-based endpoints in Go with features including context models, an asynchronous mailing system, a CDN with async compression and caching
- Ideated and wrote **CI/CD pipeline** for smooth deployment, orchestrated using Nginx and Docker
- Built a responsive and SEO friendly frontend in Next.js, with features including type-based API calls, real-time updates, filtering and data export, a persistent global store, Lazy Loading, page-level auth and layout and RTE support
- Kept the codebase modular, clean and idiomatic

Cybersecurity Engage Program May 2022 - June 2022
Microsoft

- Explored various aspects of cybersecurity including Cyber Forensics, Network Security and Malware Analysis
- Wrote a paper on *Safeguarding Indian Telecommunication Services* from a zero-day attack on the Indian soil

POSITIONS OF RESPONSIBILITY

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

- Leading a team of 5 Web Executives
- 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
- Responsible for improving the software stack and design of our 3rd generation **AUV-Tarang**

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

Among the **25** secretaries responsible for various club activities

RELEVANT COURSES

Game Theory & Mechanism Design^p 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 Stamatics, 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