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
- **AIR 4917**, JEE Advanced 2020, among 150K candidates
- **AIR 2689**, JEE Main 2020, among 1.1 million candidates
- Among the **top 10%** programmers on Hackerearth in 2017

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

Autonomous Underwater Vehicle   Team AUV-IITK
Faculty Advisor: Prof. Indranil Saha   *April 2021 - Present*

- Improved the team website ☑, which ranked **3rd** out of **52** participating teams, in **Robosub, 2021**, the largest competition for student built AUVs in the world
- 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: PostgresSQL, MongoDB, Redis
Misc: Git, Bash, AWS, Docker, Nginx, ROS, LaTeX

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%**
- **Spearheaded** a team of 2 Lead and 6 Junior developers
- Designed and built a **microservice** based backend with more than 150 endpoints in **Go** including context models, an async mailing system, a Content Delivery System
- Built a responsive frontend in **Next.js**, with features including type-based API calls, notifications, data filtering, a persistent store, Lazy Loading, page-level auth and RTE
- Ideated and wrote **CI/CD pipeline** for smooth deployment, orchestrated using Nginx and Docker
- Details about the solution architecture are available here ☑

Cybersecurity Engage Program   *May 2022 - June 2022*
Microsoft

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

POSITIONS OF RESPONSIBILITY

Web Head   IIT Kanpur
Students' Placement Office   *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
- Solved critical networking challenges while various deployments within IITK and SPO internal networks

Software Subsystem Head   IIT Kanpur
Team AUV-IITK   *April 2022 - 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   IIT Kanpur
Programming Club   *September 2021 - April 2022*

- Among the **25** selected secretaries responsible for various activities of the club

RELEVANT COURSES

Game Theory & Mechanism Design	Real Analysis
Probability & Statistics*	Fundamentals of Computing*
Linear Algebra & ODEs*	Introduction to Electronics*
Data Structures & Algorithms^u	Econometrics^u

u: Upcoming   *: 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