ABHISHEK SHREE

Second 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

KEY PROJECTS

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

- Prepared a solution for the High Problem Statement of **Digital Alpha** to develop a scalable web application on a custom ML model to analyze large SEC fillings and get SaaS metrics of given companies.
- Developed a **pipeline to extract metrics** from sec fillings using NER, question-answering model, and our **window search** algorithm with NLTK, Spacy, and **SOTA** Transformers libraries (**FinBERT**) to analyze sentiments.
- Used Legal Pegasus and multi-task t5-base models, along with Latent Dirichlet Allocation algorithm.
- Developed Backend in **Flask** for the ML pipeline using preprocessed data in **MongoDB**.
- Developed Frontend in **React**. Gave a modern look to UI and used 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 GoLang and React-Native based application for a centralised reward based **pseudo-coin** system for use in IITK Campus.
- Involved connecting APIs through axios and saving tokens in **secure-store**. Maintained several application states and navigation between screens.
- Involved Database Management, User **Authentication**, Hashing & Salting and **User Session Validation** with JSON Web Tokens(JWTs).
- Built robust REST APIs that can handle **concurrent** transactions, **multi-level user permissions**, and maintained **ACID properties**.

Numbers Made Dumber — Semester Project, Stamatics
○ Numbers-Made-Dumber — *April 2021 - July 2021*

- Worked on understanding algorithms like **Euclid's Algorithm** and it's immediate consequence like **Bezout's Identity**, Linear Diophantine Equations, etc.
- Worked on primes like Fermat and Mersenne Primes, **primality tests** like Lucas–Lehmer Test, Miller-Rabin Test and other similar ideas.
- Explored the ideas involved in **cryptography**, including group theory. Implemented the **RSA** Encryption Algorithm as an exercise in **Haskell**.

Full Stack Web Development — Semester Project, ACA, IITK
○ ACA-FSWD — *April 2021 - June 2021*

- Learnt HTML, CSS, JavaScript, React, MongoDB, server-side NodeJS, HTTP Requests & Headers etc.
- Implemented a front-end to connect APIs of a mock server using asynchronous JavaScript & error handling and developed a web app.

SKILLS

Programming: Go, C++, Java, Python, Javascript
Web: Flask, Gin, Fiber, Django, React.js, Next.js
Databases: PostgresSQL, MongoDB, Redis, CockroachDB
Misc: Git, Bash, Docker, Kubernetes, gRPC, ROS

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 (SPO).
- Creation of a new website for SPO in Next.js.
- Ran **performance tests** on the current Recruitment Portal. Identified vulnerabilities and shortcomings in the backend of the portal.
- Designing the architecture of a New Recruitment Portal for SPO with the backend based on **microservices pattern** orchestrated using **Kubernetes** and the frontend in **Next.js**.

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

- Improved the team website, which **ranked 3rd in Robosub, 2021.**
- Implemented **Kalman filters** based localisation technique to solve the SLAM problem, integrated the algorithm with **ROS** to work with real world data.
- Worked on **Monte Carlo Markov Chain** methods, **Neural Networks** and **Biomimicry** to implement algorithms for robot mapping like FastSLAM, RatSLAM, and BioSLAM.
- Researched for methods to **test** the FastSLAM algorithm in **underwater** conditions.

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

- Among the **25 selected secretaries** responsible for various activities of the club.
- Wrote a **multi-part blog series** aimed as an explainer about the various low-level components of a **Linux Distribution** (Linux Demystified).

RELEVANT COURSES

Game Theory & Mechanism Design[p]	Real Analysis
Probability & Statistics	Fundamentals of Computing
Linear Algebra & ODEs	Introduction to Electronics
Deep Learning Specialization[o]	TensorFlow Developer[o]
GAN Specialization[o]	

p: PG Course   o: Online Course

MISCELLANEOUS

- Mentoring a project consisting of around **30 students** titled Number Theory and Applications under Stamatics, covering Number theoretic theorems and their applications including basics of cryptography.
- Guided and mentored **6 freshmen** students into life at IIT Kanpur, as their **student guide**, in such unprecedented times virtually.
- Among the **top 25** teams(among 500+) in MIT's BattleCode 2020 Scrimmaging Rounds.
- Among the **top 3%** students in the country, JEE Advanced 2020.
- Among the **top 0.2%** students in the country, JEE Main 2020.
- Among the **top 10%** programmers on Hackerearth in 2017.
- Maintain a personal web page and blog at shreee.me