Abhishek Shree

Sophomore Undergraduate · Economics

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Education

Indian Institute of Technology Kanpur   *Kanpur, India*

B.S. in Economics - 8.8/10   *Nov. 2020 - Present*

Loyola High School   *Patna, Bihar*

Class XII CBSE Board - **95.2%** | School Topper   *2020*

Class X CBSE Board - **98%**   *2018*

Projects

Digitalalpha SaaS Analyser   🔗 SaaS-Analyzer

Inter IIT Tech Meet 10.0   *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 pre-processed 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   🔗 IITK-Coin

with Bhuvan Singla | SNT COUNCIL PROJECT & SUMMER PROJECT, PROGRAMMING CLUB   *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   🔗 Numbers-Made-Dumber

Mentor: Yatharth Goswami, Rohan Baijal, Vivek Kumar Singh | SEMESTER PROJECT, STAMATICS   *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   🔗 ACA-FSWD

SEMESTER PROJECT, ASSOCIATION OF COMPUTING ACTIVITIES, CSE, IITK   *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.

Technical Skills

Programming	C/C++, Golang, Javascript, Typescript, Python, Rust, Haskell, Java
Development	Flask, Fiber (Go), Django, Jekyll, Next.js, React, React Native, Redux
Utilities	Linux shell utilities, Git, Docker, Kubernetes, GDB, PostgreSQL, MongoDB, Selenium, Vim, ROS Noetic, Gazebo, LaTeX

Positions of Responsibility

Web Head, Students' Placement Office   *India*

IIT Kanpur   *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 *India*

AUV, IIT KANPUR *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 *India*

PROGRAMMING CLUB, IIT KANPUR *September 2021 - April 2022*

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

Relevant Courses

Mathematical Economics^i	Macroeconomics I^i	Probability and Statistics^i	Introduction to Electronics
Game Theory And Mechanism Design^p	Fundamentals of Computing	Linear Algebra & ODEs	Real Analysis
Deep Learning Specialization^o	TensorFlow Developer^o	GAN Specialization^o	Applied Cryptography^o
i: In progress	*o: Online Course*	*p: PG 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