



Ujjwal Raj

Roll No.: 20ME10090

Mechanical Engineering

Final Year Undergraduate (UG)

Indian Institute Of Technology, Kharagpur

+91-7295035012

ujjwal.raj.5798@gmail.com

ujjwal.raj.5798@kgpian.iitkgp.ac.in

GitHub

LinkedIn

EDUCATION

Degree/Certificate	Institute	CGPA/Percentage	Year
B.Tech.	Indian Institute of Technology, Kharagpur	8.49	2020-2024
CLASS XII (ISC)	Don Bosco Academy	97.25%	2019
CLASS X (ICSE)	Don Bosco Academy	94.00%	2017

EXPERIENCE

- **Simpl - Software Engineering Intern** May '23 - Jul '23
 - Researched and implemented project to build generative **LLM based search engine on tech documentation of Simpl**
 - Integrated several techniques like **GloVe encoding** and **text embedding** to add more semantic nature to search results
 - Worked on developing **Rest Assured framework** and built end to end auto testing of **REST APIs in Java**
 - Resolved issues in checkout microservice and made significant code contributions in **Go** for enhanced functionality
 - Gained valuable insights into the operations of engineering or tech department in a product-based company
- **Aploris/TeamSlide - Software Developer Intern** Dec '22
 - Worked in implementation of the feature to identify column design and column count in a slide
 - Researched and designed three **algorithms to tally with human perspective** of identifying **column design in a slide**
 - Implemented the designed algorithms into **C# programming language** and developed **unit tests** to verify them
 - Programmed the algorithm optimally using **Object Oriented Design** and Software Architecture Paradigms
- **Makemybrain - Technical Lead** Jan '23 - May '23
 - Planned and oversaw the development of software solutions, contributing to the advancement of **MedTech platform**
 - Designed and deployed multiple **microservices**, including a **Passwordless Authentication service (Node.js)**, an **AI ChatBot service (Golang)**, a **Blog service (Node.js)**, and a songs **RESTAPI service (flask)**
 - Developed **semantic search engine** using **TFIDF** and **GloVe** and implemented **recommendation system** for Mind Tales
 - Effectively **managed and coordinated a team of developers**, ensuring seamless collaboration and efficient project delivery

PROJECTS

- **Markbook - no more hustle with bookmarks | Chrome Extension** Jan '23
 - Engineered a platform that enables users to organize and **mark tabs** while incorporating advanced **search functionality**
 - Implemented a **Machine Learning** algorithm (**TFIDF**) in **javascript** to enhance content search capabilities within the platform
 - Utilized **Browsify** to optimize performance by bundling client-side components and reducing server-side processing
- **Dree - a single package for locally debugging folder hierarchies | C++, shell** Jun '23
 - Built program to interact with folder structures and files in any directory using robust commands in terminal
 - Implemented directory **tree data structure** using graph algorithms like **DFS, BFS and Bitmasking**
 - Implemented **Trie based search, auto-complete and spell-check** feature to commands to search for folder/files in a directory

COMPETITIONS

- **Open Soft | General Championship | IIT Kharagpur** Feb '23
 - Secured **Gold** for developing a microservice for a **fintech company** to analyze financial statements of various users and banks
 - **Scrapped** the **NSE** dataset to categorize companies by sector, enabling sector-wise financial analysis and expenditure for users
 - Built an **Analyzer module** and preprocessed transaction particulars to provide insights and **predict** future happenings
- **InterIIT Tech Meet 11.0 | High Prep Event - GradCapital** Jan '23
 - Developed a wrapper over **Amazon S3 bucket** using **Node.js**, streamlining storage and retrieval operations of research papers
 - Designed and implemented an **auth service** using **Node.js** and **mongodb**, ensuring secure access to system resources
 - Constructed an **AI Question-Answering (Q&A) service** for research papers in Flask by utilising OpenAI's GPT 3 model
 - Created a **search service** utilizing the **Meilisearch** open-source engine, establishing a robust search base for research papers

ACHIEVEMENTS

- Secured **State Rank 1** in ISC +2 board examination 2019 conducted by Council For The Indian School Certificate Examinations
- Secured **AIR-5816** among 1.5 lakhs candidates in JEE (Advanced) 2020 conducted by Indian Institute of Technology Delhi
- Scored **99.147 percentile** among 1.02 million candidates in JEE Main 2020 conducted by National Testing Agency (NTA)
- Codechef Contests **Global Rank 24** in April Long Contest Two 2022, **Global Rank 98** in June Long Contest Two 2022

TECHNICAL SKILLS

- **Programming Languages:** C++, C, javascript | pythoon | Go | Java | Solidity
- **Libraries/Frameworks:** Git, ReactJs, NodeJs, Mongodb, SQL, smart contracts, ethereum

EXTRA CURRICULARS

- Part of **Bronze Winning Athletics Team of RP Hall** in the **Interhall Championships 2022** conducted by TSG, IIT Kharagpur
- Receiver of **Rajendranath Das Memorial Award** and **Goralal Syngal Memorial Scholarship** at IIT Kharagpur