





AYUSH KUMAR

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Education

Indian Institute of Technology (Indian School of Mines), Dhanbad

Dhanbad, Jharkhand

Bachelor of Technology in Computer Science and Engineering

(Dec,2021 - May,2025)

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems (OS), Object-Oriented Programming System (OOPS), Database Management System (DBMS), Computer Networks, Deep Learning.

Experience

Bharat Electronic Limited (R&D Intern , Gaziabad)

Feb 2025 - March 2025

- Worked at **BEL CRL (Ghaziabad) in R&D**, contributing to the ATMS team who has deployed fully functional system for daily flight plan management and ATC training software at Bhubaneswar Airport.
- Got exposure to **Develop a QT/py application on RHL 8.2** that converts voice inputs into detailed flight plan scenarios.

Google Summer Of Code (Rocket Chat)

May 2025-Present

- Implementing a significant upgrade to Rocket.Chat message composer elements to provide users, AI assistance in writing messages using **Context-sensitive spelling corrections, inline grammar correction recommendations, and clarity-enhancing rewording, Inline hinting** are among the major features. The project also provides language translation, summarization, emoji, and tone control features.
- **Tech Stack:** Meteorjs, RocketChat SDK, MongoDB, TypeScript, RocketChat Apps-Engine, REST APIs.

Projects

My-Web-Server-CPP : C++, Linux, Makefile GitHub

- Developed a lightweight, **multi-threaded C++** web server using **TCP/IP** to serve custom request.
- Empowering **Gzip compression** and **ETag-based** web cache validation for efficient content delivery .

Stock Analysis - View Website | GitHub

(Open Source, 300+ Unique Clone)

- Created a **full-stack** web application to provide in-depth stock analysis and investment advice.
- Implemented **role-based authentication, email validation using nodemailer, password reset options** , dynamic stock filtering, Limited article view without authentication, Live view tracking.
- Tech Stack : MongoDB, Docker, Express.js, React.js, Tailwind CSS, Node.js, JWT, Context API, CI/CD Pipeline.

Enhancing LLM Privacy Using RAG — Python, GenAI, Ollama, HuggingFace - GitHub

- Developed a local, **privacy-preserving LLM using RAG** to keep data secure on-device.
- Improved **retrieval accuracy(20% to 30%)** by **fine-tuning** the RAG model's retrieval component.

Technical Skills

Languages: C++, C, HTML, CSS, Javascript, Python, SQL, ReactJS

Frameworks: NodeJs, Express, MongoDB

Developers Tool: VS Code, JupyterNotebook, Docker, GIT

Achievements

- Codeforces - **specialist(1439)** | Problems: 500+ • Codechef - **4 Star** | Problems : 150+
- Leetcode - **Knight (1887)** | Problems 350+ • CodingNinja - **Expert** | Problems 200+
- Meta Hackercup 2023 **Round 2 - Rank 2895**.
- ICPC Asia Amritapuri Regionals 2023: Secured **rank 26 out of 510 regional teams**.
- NTSE **AIR 241** Scholar.
- Secured **AIR 4068** in JEE Advanced and in the **top 0.44% of students among 1 Million+ students** in JEE Mains.
- Secured a minimum **ranking of 49** among 37078 in Leetcode(Weekly Contest 406).