





Ranjan Kumar

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EDUCATION

Indian Institute of Technology Guwahati, India

Bachelor of Technology in Chemical Science and Technology

Nov 2021 - Present

CGPA: 6.88/10

Langat Singh College

Senior Secondary, Bihar Board

2020

Percentage: 83.6%

EXPERIENCE

CloudGrep

Software Development Engineer Intern

May 2024 - July 2024

- **Designed and optimized** full-stack features for a **Firecracker VM orchestration** platform using **Next.js, Go, and MongoDB**, improving **performance by 35%** through efficient **SSR and SSG** strategies.
- **Integrated** RESTful API endpoints with **platform-engineering wrapper functions**, streamlining **Firecracker VM lifecycle** management, reducing deployment time by **40%**.
- **Developed** real-time functionality by **orchestrating WebSocket connections**, enabling **seamless microservice communication** and live updates, decreasing **latency by 50%**.

PROJECTS

Distributed File Storage

Feb 2025 - March 2025

Open Source Project

github.com/ranjannkumar/Distributed-File-Storage

- Enhanced **data availability** and **reliability** by designing and developing a **decentralized file storage system** based on a **peer-to-peer (P2P) network architecture**. This setup enables **distributed data storage** across multiple nodes.
- Strengthened **data security** and **integrity** by implementing comprehensive data encryption mechanisms. Utilized the **MD5 hashing algorithm** to **encrypt data** before transmission, ensuring that data remains **secure**.
- Optimized **network communication** within the system by implementing a **robust TCP connection protocol**, facilitating **efficient data transfer** and seamless interaction between nodes in the **peer-to-peer network architecture**.

Food Delivery App

July 2024 - Aug 2024

Personal Project

github.com/ranjannkumar/Food-Delivery-App

- **Developed the UI of the application using React** and effectively managed routing with **React Router DOM**. Utilized **Axios** for seamless backend communication to fetch, send, and update data.
- Built and maintained the server-side logic and **database schema**. Implemented user authentication with **JWT** and **bcrypt**, **handled file uploads with Multer**, and integrated **Stripe** for payment processing
- Designed and implemented the **admin interface** with React. Integrated React Router DOM for seamless navigation and Axios for API interactions. Utilized **React Toastify for user feedback and notifications**.

Chat Application

Sep 2024 - Nov 2024

Personal Project

github.com/ranjannkumar/Chat-Application

- Designed and developed a **real-time** chat application that supports instant messaging, user authentication, and **multimedia file handling**. Utilized **React and Redux** for the frontend, with MUI for styling and **Socket.io** for real-time communication and **React Hot Toast for user notifications**.
- Developed with Express and Node.js, handling API endpoints, real-time messaging via Socket.io, and **secure user authentication with JWT and bcrypt**. Managed file uploads using Multer and Cloudinary for image storage.
- Employed **Mongoose for MongoDB database interactions, including storing user profiles and chat messages**.

TECHNICAL SKILLS

Programming Languages: C/C++, JavaScript, Go

Web Technologies: HTML, CSS, ReactJs, NextJs, Tailwind, NodeJs, Express

Database Database Management System (DBMS), MongoDB

Miscellaneous: Object-Oriented Programming(OOPs), Operating System, Computer Networks, System design, SQL, Git, VS Code

KEY COURSES TAKEN

- **Node.js:** Backend Development with Node.js under Student Web's Committee (SWC) IITG
- **React.js:** Frontend Development with React.js workshop under Student Web's Committee (SWC) IITG
- **Computer Science:** Introduction to Computing, Computing Laboratory, Computational Chemistry

POSITIONS OF RESPONSIBILITY

- **Head at Right and Responsibility Club, IIT Guwahati**

April 2023 - April 2024

– Led a team of content and managed all aspects of content production for the Right and Responsibility Club.

ACHIEVEMENTS AND EXTRACURRICULAR

- **Competitive Programming:** Solved **1000+ problems** on different coding platforms. current
- **Spardha, Inter Hostel Competitions:** Won **Gold medal** in Carrom, represented Kameng Hostel. 2023
- **CRM Executive, Alcheringa, IIT Guwahati** June 2022 - March 2023
- **JEE Advanced:** Ranked in the **Top 8%** among 150,000 students. 2021