Mayank Raj

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Education

IIT(ISM) Dhanbad, Jharkhand	Expected May 2027

Bachelor of Technology in Petroleum Engineering (CGPA: 7.28/10)
Relevant Coursework: Introduction to Programming (C), Object Oriented Programming (C++), Numerical Methods, Mathematics, Engineering Economics and Finance

Projects

WebRTC | *Socket.IO, React.js, Express, JavaScript*   View

- Developed a secure, real-time **peer-to-peer video calling web app** using **WebRTC** and **Socket.IO**, enabling seamless one-on-one calls with stable performance in **10+ test sessions**.
- Set up a secure **signaling server** using **Express.js**, coordinating **WebRTC offer/answer flow** and **ICE candidate exchange** between peers.
- Prepared a responsive **React frontend** for session management and tested across **5+ devices**.

CHILLR | *HTML, CSS, JavaScript, React.js, Node.js, Express, MongoDB, Mongoose*   View

- Developed a full-stack **ticket booking and listing platform** using the **MERN stack**, allowing clients to **list events** and users to **register, log in/out, manage carts**, and **book tickets**.
- Created a **client dashboard** with **role-based access control**, secure authentication using **bcrypt password encryption**, and real-time ticket availability updates.
- Implemented features like **event filtering**, **ticket inventory management**, and a **responsive user interface**, tested with over **50 mock events** and **25+ user interactions**.

CF Daily | *JavaScript, HTML, CSS, Git, GitHub*   View

- Built a popup browser extension for **Codeforces**, visualizing practice history as a **30-day heatmap**.
- Integrated a custom **Daily tab** into the Codeforces navigation bar with **difficulty range (800–3500)** and filters for any of the **37 problem tags** or a random topic.
- Enabled interactive controls for users to personalize practice and track consistency, encouraging better habits through visual feedback and daily goals.

Technical Skills

Programming Languages: C, C++, Python, JavaScript
Web Technologies: HTML, CSS, React, Node.js, Express.js, Flask, Socket.IO
Databases: MongoDB, SQLite, Mongoose
Tools & Platforms: Git, GitHub
Libraries & Packages: Pandas, NumPy, SciPy, Matplotlib
Core Concepts: Data Structures & Algorithms, Object-Oriented Programming, Full-Stack Web Development, Operating Systems, Probability & Statistics

Achievements

Solved 300+ problems on **Codeforces** — Current rating: 1341 (Pupil)
Solved 350+ problems on **LeetCode** — including 200+ Medium-level problems, Max rating: 1661
Completed **CS50x** — Introduction to Computer Science (Harvard University, edX)
Completed **CS50P** — Introduction to Programming with Python (Harvard University, edX)

Social Engagements

Club Member: at Fintech Club, IIT(ISM) Dhanbad
Head, Content team: at FIPI, IIT(ISM) Student Chapter