


Atharv Singh


Software Development Engineer — FullStack Developer — System Design Enthusiast

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Projects

EveSpark  | *React.js, Bootstrap, NodeJs, Express, MySQL, CORS*

- Engineered **secure user and admin authentication**, significantly **reducing event registration queue time** and developed responsive profile pages to enhance user experience .
- **Designed robust backend services with Node.js and Express**, efficiently managing event data and user profiles with MySQL for reliable storage and **quick retrieval** .
- **Utilized CORS to enable secure cross-origin requests**, ensuring seamless interaction between frontend and backend components, thus maintaining secure and efficient communication.

ChatRoom  | *C++ (Boost.Asio, Multi-threading)*

- Engineered a scalable, high-performance chat room application using **Boost.Asio, async I/O**, and **multi-threading**, supporting **100+ concurrent clients** with **<50ms message latency**.
- Designed a **custom messaging protocol** with **4-byte headers** and **512-byte payloads**, improving **message parsing speed by 40%** for efficient real-time communication.
- Optimized **session and queue management** using **event-driven architecture** and **shared pointers**, reducing **memory overhead by 25%** and enhancing scalability.

AirWise  | *React , TailwindCSS, MongoDB , NodeJs, Express, Redis*

- Developed a **full-stack AQI Trip Planner** , enabling users to find low-AQI destinations with **real-time** air quality data and travel recommendations.
- **Implemented geospatial queries and real-time AQI integration** using WAQI API, MongoDB's **2dsphere index**, and distance calculation algorithms to provide accurate location-based suggestions. .
- Leveraged **TanStack (React Query)** for efficient **server state management** and designed scalable backend services following **MVM architecture** for seamless user experiences. .

Skills

Languages: C, C++, Python, JavaScript, HTML/CSS ,Tailwind CSS

Tools: Git/GitHub,AWS, Kubernetes, Docker ,Bash, UML, Figma (Beginner) — **Databases:** MongoDB , MySQL

CourseWork: Object Oriented Programming , Database , Operating System , Computer Networks, Software Development Lifecycle ,Software Architecture

Frameworks: React.js , Node.js(Intermediate) , Express.js(Intermediate), TanStack

Competitive Programming Codeforces Round 934 (Div. 2) achieved AIR of **2338** and AIR **1627** in LeetCode Biweekly Contest 150 .

Soft Skills: Leadership, Adaptability, Writing, Problem-Solving, Time Management

Research Project

Emotion Recognition through Paralinguistic and Vocal Cues | *Dr. Ram Kumar*

Jan 2025 - Ongoing


- Developing models to analyze vocal cues such as pitch, tone and speech rate using Librosa and PyDub to detect user emotions.

Certifications

Google — The Bits and Bytes of Computer Networking 

Covered TCP/IP, DNS, HTTP, network security, and troubleshooting.

Grade 98%

IIT KGP — NPTEL - Cloud Computing 

Studied cloud architecture, security, and distributed systems.

Elite Silver

Education

Vellore Institute of Technology, Bhopal

Bachelor of Technology - Computer Science

Current CGPA: **8.51**

2022 - 2026

India