Atharv Singh

Full-Stack Developer — System Design Enthusiast

📞 +91 7566931531   ✉ singhatharv1919@gmail.com   ⬡ github   in linkedin   </> Coding Profiles

Projects

Fastlane ↗ | *Go (Cobra, Concurrency, Socket Programming)*
- Constructed a modular, high-utility CLI for **network benchmarking** with commands like `ping`, `download`, `upload`, and `report`, tested across **20+ networks**.
- Implemented concurrent TCP speed tests and layered latency analysis (DNS, TCP, TLS), achieving **median ping accuracy ±6ms** and throughput up to **100 Mbps**.
- Delivered a branded, minimal **Unicode CLI UI** with spinners, live ASCII graphs, and JSON exports, improving **usability by 50%** in user testing.

ChatRoom ↗ | *C++ (Boost.Asio, Multi-threading)*
- Built a scalable, high-performance chat room application using **Boost.Asio**, **async I/O**, and **multi-threading**, supporting **100+ concurrent clients** with **<50ms message latency**.
- Created 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.

EveSpark ↗ | *React.js, Bootstrap, NodeJs, Express, MySQL, CORS*
- Engineered **secure user and admin authentication**, significantly **reducing event registration queue time** and crafted responsive profile pages to enhance user experience.
- **Architected 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.

AirWise | **O**ngoing ↗ | *React , TailwindCSS, MongoDB , NodeJs, Express, Redis*
- Spearheaded 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 engineered scalable backend services following **MVM architecture** for seamless user experiences.

Skills

Languages/Tools: C/C++, Python, Golang, JavaScript, Git, AWS, Docker, MongoDB/MySQL

Frameworks: React, Node.js, Express, TanStack —— **Coursework**: OOP, DBMS, OS, Networking, SDLC

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

Technical Leadership

Led a team of 5 in building *EveSpark*, overseeing backend development with a focus on **RBAC** and ensuring smooth coordination between frontend and backend teams.

Presented **feature walkthroughs**, maintained technical documentation, and aligned the team on **design decisions**

Independently built *Fastlane CLI* — a Go-based network benchmarking tool — from scratch, h**andling architecture, CLI UX,** and **concurrency design**.

Education

Vellore Institute of Technology, Bhopal   **2022 - 2026**
Bachelor of Technology - Computer Science   *India*
Current CGPA: **8.44**