Jagpreet Singh

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EDUCATION

Sagar Institute of Research and Technology — Bhopal, India
B.Tech in Computer Science — *Sept. 2023 – Present*

Priyamvada Birla Senior Secondary School — Satna, India
CBSE High School (Science Stream) — *Feb. 2023*

PROJECTS

LighterPulse | Live | GitHub | *Next.js, TypeScript, Redis, WebSockets, Dune Analytics*
- Built a real-time analytics dashboard for Lighter Protocol serving **150+ daily users** with live trading and on-chain insights
- Engineered **Redis caching** (Upstash) reducing API calls by **60%+** and achieving sub-2s page load performance
- Integrated multi-exchange APIs (Lighter, Binance, Bybit) for funding rate comparison and arbitrage insights
- Designed scalable architecture with Next.js App Router, dynamic routing, and modular API layers
- Implemented optimized data fetching and lazy loading to improve performance on low-bandwidth networks

WalletX | Live | GitHub | *React, Node.js, Express.js, MongoDB, TypeScript*
- Developed a full-stack digital wallet platform with secure transactions and real-time balance tracking
- Implemented **JWT authentication**, bcrypt hashing, and input validation for secure user and payment flows
- Designed RESTful APIs with transaction handling and **ACID-compliant** operations for financial reliability
- Built responsive UI with React and integrated analytics dashboard for transaction insights
- Structured backend using modular architecture ensuring maintainability and scalability

Lighter Liquidation Tracker | GitHub | *Node.js, WebSockets, Redis, REST API*
- Developed a real-time liquidation tracking service using **WebSockets** to monitor on-chain events across markets
- Implemented deduplication logic and minute-level aggregation to ensure accurate 24-hour liquidation metrics
- Used Redis with TTL-based storage for efficient rolling window data processing
- Designed scalable system with separate worker and API server for independent processing and querying
- Optimized event handling for low-latency updates in high-frequency trading environments

TECHNICAL SKILLS

Languages: C++, JavaScript, HTML/CSS, SQL (Postgres)
Backend: Express.js, Node.js, REST APIs, WebSockets, JWT Authentication, Firebase, API Design, Postman
Frontend: React, Next.js, Tailwind CSS, Shadcn
Databases: MongoDB, PostgreSQL
Developer Tools: Git, Docker, AWS EC2, Nginx, CI/CD, Linux

KEY HIGHLIGHTS

- Built production-grade applications with **150+ daily users** and real-time data pipelines
- Implemented caching and system optimizations reducing API load by **60%+**
- Developed real-time systems using **WebSockets** and event-driven architectures
- Designed scalable full-stack applications with strong focus on performance and reliability

COURSEWORK

- Data Structures and Algorithms, Database Management Systems, Operating Systems, Computer Networks