HARSHIT SHARMA

Software Engineer | Distributed Systems | C++ and Python
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SUMMARY

Software engineer with 4+ years of experience building low-latency distributed systems in C++ and Python. Led a production migration that reduced end-to-end latency by 98% (5 seconds to 100 milliseconds), sustained 10,000+ events per second, and lowered infrastructure cost by 25%. Experienced in system design, reliability, production ownership, design reviews, code reviews, and technical mentoring.

TECHNICAL SKILLS

Languages and Networking: C++, Python, TCP/IP, WebSockets, REST APIs, gRPC, FastAPI
Distributed Systems and Data: Kafka, MQTT, EMQX, Redis, PostgreSQL, InfluxDB
Infrastructure and Engineering: Linux, Docker, Kubernetes, AWS, CI/CD, PyTest, observability, incident response, code review

EXPERIENCE

AlphaGrep Securities - Bengaluru, India **2024 - Jul 2026**

Software Engineer II

- Led the architecture and phased rollout of a distributed communication platform across 5-10 production nodes, replacing file-based IPC with TCP and WebSockets; reduced latency by 98%, sustained 10,000+ events per second, and lowered annual infrastructure cost by 25%.
- Designed a fault-tolerant messaging framework using MQTT, EMQX, and Kafka for 100+ concurrent services; owned message contracts, validation, deployment controls, recovery behaviour, and production reliability.
- Led design and code reviews and coordinated 3 engineers through technical decomposition, implementation, debugging, rollout, and production ownership.

Software Engineer **Mar 2022 - 2024**

- Built and operated REST and gRPC services with authentication, caching, rate limiting, load balancing, health checks, and monitoring across Docker, Kubernetes, and AWS.
- Prevented duplicate, missing, and out-of-order events using sequence validation, checksums, idempotent processing, automated recovery, structured logging, and Grafana alerting.

PROJECTS

Algorithmic Trading Research Platform | *Python, FastAPI, WebSockets, Redis, PostgreSQL*

- Independently designed and built an end-to-end multi-exchange platform that was later adopted and extended at AlphaGrep for internal strategy development.
- Ingested real-time order-book feeds from Kite, Binance, Delta Exchange, and Hyperliquid, generated OHLCV data, and distributed market updates to multiple Python trading strategies.
- Created a unified Python strategy interface for historical backtesting and live trading, with a GUI-driven workflow for adding algorithms, evaluating returns, and routing orders to exchanges.

Keyboard-First Browser with Extension Support | *C++, Qt WebEngine*

- Built a full desktop browser inspired by Vim and qutebrowser with mouse-free link navigation, keyboard-driven tab management, and command-based browsing workflows.
- Added configurable keyboard macros, multiple browser profiles, userscript execution, and support for selected existing Chrome extensions.

EDUCATION

Chandigarh University - B.E. in Computer Science | CGPA: 8.6/10 **2018 - 2022**