

Pruthvi Panchal

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SUMMARY

Software Engineer with 4 years of fintech experience, including developing a production trading platform of 17 Go microservices spanning real-time broadcast, order execution, payments, and market analytics. Combines deep Go distributed systems expertise with high-performance C++ HFT systems. Actively builds tools using AI and LLMs, with hands-on experience across multiple AI models and agent frameworks. Known for fast R&D cycles and rapid delivery across diverse technical domains.

EXPERIENCE

Greeksoft Technologies

GIFT City, Gandhinagar, India

Software Developer – Go Microservices & Distributed Systems

June 2024 – Present

- Developed a production trading platform comprising **17 Go microservices** covering real-time broadcast, order execution, payment processing, notifications, market data ingestion, and full-text search – serving **20,000+ concurrent users**.
- Built a real-time market data broadcast server handling **10,000+ simultaneous WebSocket connections** per node with sub-millisecond delivery; used worker pools scaled to CPU cores and memory pooling to keep performance stable under heavy load, with built-in goroutine leak monitoring for production reliability.
- Engineered a lock-free order replication service processing **1,250+ orders/sec** at **250μs** average latency and **95%+ Redis cache hit rates**; implemented binary C++ struct decoder (magic-number validation, fixed-point arithmetic) for legacy system integration.
- Designed an enterprise payment aggregation layer supporting ATOM, Razorpay, and HDFC UPI via a gateway factory pattern, dynamic credential rotation through HashiCorp Vault, and a continuous background reconciliation service.
- Built NATS JetStream event backbone across 10+ services with durable consumers and stream replay; integrated HashiCorp Consul for **live config reloading** without restarts; designed multi-tenant PostgreSQL and Redis isolation per broker.
- Deployed all 17 services on Kubernetes (99.9% uptime); set up CI/CD pipelines reducing deployment time by **60%**; instrumented with Prometheus, OpenTelemetry distributed tracing, and Grafana; optimized queries with Redis and RediSearch, **cutting response times by 40%**.
- Tuned Go services on Linux for low-latency operation: used **IOUring** for async I/O, pinned hot goroutines to CPU cores via **runtime.LockOSThread**, tuned TCP socket options (**SO_SNDBUF**, **TCP_NODELAY**) on market data paths, and profiled with **perf** and **strace** to identify and eliminate kernel-level bottlenecks.

Software Developer – C++ Trading Systems

July 2022 – July 2024

- Built and optimized high-frequency trading systems using VC++, MFC, and Modern C++; implemented multi-threaded order routing with FIX Protocol integration, **reducing order-routing latency by 15%**.
- Eliminated I/O bottlenecks in critical trading paths by replacing hot-path database queries in IOB modules with in-memory data structures (maps and vectors), significantly improving throughput under peak load.
- Debugged and resolved **200+ critical bugs** in algorithmic trading strategies; conducted VAPT to identify and remediate security vulnerabilities using CrashRpt and ProcDump for crash analysis.
- Designed TCP/UDP socket solutions for real-time market data streaming across distributed trading nodes, ensuring reliable low-latency communication between order management and execution systems.

Angel IT Solution

Vadodara, India

Full Stack Web Developer

March 2021 – June 2021

- Developed and deployed responsive web applications using HTML5, CSS3, Bootstrap, JavaScript, PHP, and MySQL, delivering multiple client projects end-to-end within tight timelines.
- Diagnosed and resolved cross-browser compatibility and performance issues, improving application stability and reducing client-reported bugs.

EDUCATION

Parul University

Vadodara, Gujarat

B.Tech in Computer Science Engineering CGPA: 7.92/10

2022

Gujarat Technological University

Gandhinagar, Gujarat

Diploma in Computer Engineering CGPA: 6.91/10

2019

TECHNICAL SKILLS

Languages: Go, C++, JavaScript, PHP, SQL

Frameworks & APIs: gRPC, REST APIs, Gin, Fasthttp, WIN32 API, MFC

Technologies: WebSocket, NATS JetStream, Redis, RediSearch, IOUring, FIX Protocol, Prometheus, OpenTelemetry, Grafana, KrakenD, JWT, HashiCorp Vault, HashiCorp Consul, TCP/UDP Sockets

Linux: IOUring, CPU affinity (taskset, runtime.LockOSThread), TCP socket tuning (SO_SNDBUF, TCP_NODELAY), perf, strace, pprof

Databases: PostgreSQL (multi-tenant), MySQL, Redis

DevOps: Docker, Kubernetes, CI/CD, Git, GitLab

AI & LLM Tools: Claude API, OpenAI API, Claude Code, Cursor, AI Agent frameworks; proficient in prompt engineering and building LLM-powered tools and workflows

Methodologies: Distributed Systems, Microservices Architecture, Event-Driven Architecture, High-Performance Computing, Agile