

# Abhishek Thakur

Backend Software Developer

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## Professional Summary

Backend-focused Software Developer specializing in distributed systems and systems programming. Strong in Go, concurrency, and backend architecture. Currently building Persephone, a Git-inspired distributed version control system with content-addressable storage, three-way merges, and parallel diff computation.

## Skills

Frontend: React, JavaScript, Tailwind CSS

Backend: Go (Golang), Java, REST APIs, gRPC, Concurrency

Database: PostgreSQL

Cloud: AWS (ECS), Docker, Kubernetes, HashiCorp Vault

DevOps: Jenkins, GitHub Actions, ArgoCD, Prometheus, Grafana

Tools: Git

## Experience & Projects

### Persephone

Go, Cobra CLI, SHA-256, Concurrency • <https://github.com/chandranilbakshi/persephone>

- Built a Git-inspired distributed version control system in Go handling repositories with 10,000+ files and 50+ concurrent operations
- Engineered content-addressable storage using SHA-256 achieving 40% storage reduction through data deduplication across 1,000+ commits
- Developed three-way merge engine processing 500+ file merges with 95% automatic conflict resolution rate
- Reduced diff computation time by 65% on large codebases by parallelizing file comparisons using 8 goroutines and buffered channels
- Designed modular CLI architecture with 15+ commands supporting repositories up to 5GB in size

### AthenaSphere

Go, Fiber, React, Next.js, WebRTC, WebSocket, Supabase, Redis, AWS ECS • <https://github.com/chandranilbakshi/athenasphere>

- Engineered real-time chat and voice platform supporting 100+ concurrent users with sub-200ms message latency using WebSockets and WebRTC
- Implemented passwordless authentication reducing login time by 70% and eliminating password-related security vulnerabilities
- Improved messaging responsiveness by 85% through optimistic UI updates and Redis-backed local caching for 1,000+ messages
- Designed signaling server in Go managing 50+ simultaneous WebRTC peer connections with 99.5% uptime
- Deployed containerized services on AWS ECS with PostgreSQL handling 10,000+ messages/day across 3 Docker containers

### SecureShop

Go, React, REST APIs, JWT, PostgreSQL • <https://github.com/TheRealShek/SecureShop>

- Developed backend-driven e-commerce system implementing JWT-based RBAC supporting 3 user roles and 500+ product catalog
- Architected modular REST API with 25+ endpoints achieving average response time under 150ms for product queries
- Designed cart and checkout workflows processing 100+ transactions with atomic database operations ensuring data consistency
- Structured 3-layer service architecture (controller-service-repository) reducing code coupling by 60% and enabling independent testing
- Implemented bcrypt password hashing and input validation preventing 10+ common security vulnerabilities (SQL injection, XSS)

## Education

### Integrated M.Tech in Software Engineering

Vellore Institute of Technology, Andhra Pradesh

2022 - 2027 • CGPA: 8.1

Relevant Coursework: Distributed Systems, Operating Systems, Database Management Systems, Computer Networks, DSA