

AVIS LOWHA

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SUMMARY

Pre-final year Computer Science student focused on backend and distributed systems. Strong foundation in concurrency, memory management, and Linux internals with hands-on work in C/Go. I own and maintain open-source projects, and an end-to-end full-stack e-commerce store through my contract work.

EDUCATION

Manipal Institute of Technology, Bangalore

CGPA: 8.00

B.Tech in Computer Science & Engineering (AI)

August 2023 – May 2027

- **Relevant Coursework:** Distributed Systems, Database Internals, Operating Systems, Data Structures & Algorithms, Object-Oriented Programming, Advanced Machine Learning, Neural Networks & Deep Learning

TECHNICAL SKILLS

Languages: C/C++, Go, JavaScript/TypeScript, Python

AI Infra: LangChain, Vector DBs, RAG, Pytorch

Backend & Web: Express, NestJS, Next.js, Websockets, MongoDB, PostgreSQL, Prisma

Systems & Networking: Raft Consensus, gRPC, eBPF, TCP/IP

Cloud & Infrastructure: AWS (EC2, S3, EKS), Kubernetes, Docker, Linux, Jest, Redis

Observability: Prometheus, Grafana

EXPERIENCE

Fullstack Developer

May 2025 – Oct 2025

[PetroShopIndia](#)

- Developed a headless CMS using Nest.js, Node.js/Express and PostgreSQL orders capable of product/cart management, order tracking, role-based access, and real-time customer support chat.
- Automated payment and order fulfillment by integrating Razorpay and ShipRocket APIs eliminating manual workload.
- Secured application with OAuth 2.0, JWT-based authentication, OTP 2FA, and RBAC middleware protecting admin routes from unauthorized access.
- Improved API response times by 40% through Redis caching and database query optimization; deployed production system using Docker, CI/CD, and rate limiting.

PROJECTS

SisyphusDB - Distributed Key-Value Database | *Go, gRPC, Kubernetes, Prometheus* | [GitHub](#) | [Benchmarks](#)

- Built and maintained an open-source strongly consistent distributed key-value store with Raft consensus and LSM-tree storage engine for memory-constrained write heavy tasks.
- Developed unit and integration test suites for consensus and replication logic; performed chaos testing to validate leader election and log consistency guarantees.
- Set up Prometheus and Grafana dashboards to track cluster health, leader state transitions, P99 latency, and write throughput in real-time.
- Deployed on **AWS EKS** using Kubernetes StatefulSets and achieved 10,000+ write RPS with <55ms P50 latency & <90ms P90 Latency, validated through load testing.

Automated Pull Request Reviewer | *Node.js, ChromaDB, tree-sitter* | [GitHub](#)

- Built a github bot that automatically reviews pull requests and posts code suggestions with severity ratings.
- Implemented a RAG based pipeline using ASTs to parse codebases and combined vector search to generate LLM based context-aware feedback.
- Used LangChain prompt templates and structured output parsing to review comments via OpenAI and Gemini APIs, improving consistency across 10+ PRs.

L4 Load Balancer | *C, Go, eBPF* | [GitHub](#)

- Built a Layer 4 load balancer using BPF and XDP-hook that processes TCP packets directly at the network driver in the Linux kernel, bypassing the full networking stack for lower latency.
- Implemented consistent hashing with jhash on client IP and port to distribute connections across backend servers while maintaining sticky sessions.

ACHIEVEMENTS

Open Source: Resolved a deadlock in the **PingCAP/TiKV** testing framework preventing pipeline hangs (PR [#10248](#)).

Project Lead: Worked as **Project Lead** in GSSoC/Apatre with SisyphusDB reviewed 10+ contributors and multiple PRs.

LeetCode Knight (Top 3.7%): Achieved **Knight badge** with **1927** max rating and solved 500+ problems.

Competitive Programming: Ranked Top #523 in Weekly Contest 479, Top #750 in Weekly Contest 485 in LeetCode.