Uday Sehgal

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Education

BITS Pilani, K.K. Birla Goa Campus — Goa
B.E. Electronics & Communication Engineering — 2019–2024
CGPA: 8.15

Experience

Dreamplug Technologies Pvt. Ltd. (CRED) | Backend Engineer II — Bangalore | July 2024 – Present

- Designed and developed medium-to-large features on the WIN platform, sustaining **1,000+ write RPS and 5,000+ read RPS** with high availability and low latency; partnered with product, design, ops, and business teams to build user experiences.
- Took ownership of the WIN platform within months, becoming the primary point of responsibility for **feature delivery, system reliability, and cross-team integrations**.
- Led a **Redis-based distributed rate limiter** with adaptive load balancing across vendor accounts, improving reliability during traffic spikes; the component was reused **5+ times** across engineering teams.
- Profiled Go services and optimized data pipelines to resolve performance and scalability bottlenecks, **reducing latency by 30%**.
- Mentored interns and new hires through onboarding, code reviews, testing practices, and backend design guidance.
- Fixed **200+ failing unit tests** and improved CI pipelines, maintaining **85%+ test coverage** across win-service.
- Worked with Java, Go, Redis, Datadog, PostgreSQL, and internal AWS-like infrastructure to deliver performant, reusable components.

Amazon | Software Engineer Intern — Hyderabad | July 2023 – December 2023

- Built and shipped a **full-stack internal console** consolidating multiple services into one interface for the Invoicing Platform Team, improving developer efficiency.
- Developed scalable Java APIs with server-side pagination using DynamoDB and AWS Step Functions; implemented the frontend using **React and Redux**.
- Reduced ticket resolution time by **70%** and decreased weekly incident volume by streamlining workflows and automating root-cause analysis.
- Designed and executed a data migration pipeline using AWS Glue, EMR, and S3, backfilling **300 TB** across DynamoDB tables with zero data loss.
- Owned design, development, testing, and deployment, gaining experience with architectural patterns for large-scale distributed systems.

Projects

DinoDB | High-Performance In-Memory Database — C++
`github.com/udaysehgal/dinodb`

- Built a **Redis-compatible in-memory database in C++**, implementing the RESP protocol, epoll-based networking, pipelining, and batched I/O for high-throughput request processing.
- Designed a **sharded concurrent hash table** with lock-free reads and per-key synchronization, enabling concurrent GET/SET operations with low contention.
- Implemented zero-copy request/response handling and optimized memory management to minimize allocations and reduce latency in the critical request path.
- Developed an **agentic coding workflow** using Claude Code, Codex and GLM to coordinate multi-model development.
- Applied an iterative **code–test–feedback loop**, using execution results and test failures to guide agent-driven code changes, debugging, and validation.

Technical Skills

Languages: C++, Java, Go, Python
Backend & Systems: Distributed systems, concurrency, Redis, PostgreSQL, DynamoDB, AWS Step Functions, rate limiting, performance profiling
Frontend: React, Redux, full-stack internal tools, API integration
AI Engineering: Agentic coding, multi-model orchestration, custom development harnesses, task delegation, automated testing and feedback loops

Honors & Awards

Recipient of **DST INSPIRE Scholarship**, awarded to top 1% of students in CBSE.