

# Ashwani Kumar Kamal

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## EDUCATION

### Indian Institute of Technology Kharagpur

Bachelor of Technology, Computer Science and Engineering — CGPA 8.82

Courses: Operating Systems, Compilers, Computer Networks, Computer organization & Architecture, Algorithms

Kharagpur, West Bengal

2020 - 2024

## EXPERIENCE

### Schlumberger

Software Engineer | Go, Java 22, Spring Boot, Kubernetes, Google Cloud Platform

Jul 2024 – Present

Pune, India

- Lead migration of **1M** customer records to isolate sensitive **PII**, improving security & reducing data coupling.
- Improved identity lookups with **SQL joins** and implemented **Redis caching** reducing **P95** latency by **40%**.
- Completed comprehensive **unit tests** using Go's testing package and **testify** framework, achieving **90%** coverage.
- Built analytics microservice in **Java 22** and **Angular** microfrontend dashboard to visualize data package metrics.
- Decommissioned unused task services, cutting infrastructure cost by **\$630/month** and simplifying topology.

### Piramal Retail Finance

Software Engineer Intern | Java 17, Spring Boot, Temporal, Postgres

May 2023 – Jul 2023

Bengaluru, India

- Designed proof of concept for in-house job **scheduler** for **15+** microservices to schedule functions in a workflow.
- Engineered microservice handling **10K+** scheduled tasks/day with configurable retry, payload, timeout options.

## OPEN SOURCE CONTRIBUTIONS

**Lunatik** | C, Lua, Linux | Scripting the kernel with Lua

Dec 2025 – Present

- **Member** of the Lua In Kernel organization, reviewing patches and proposing architecture improvements.
- Revamped Lua-kernel method dispatch by replacing lazy **index** lookups with eager closure wrapping on objects.
- Achieved a reduction of method call overhead from **275ns to 128ns** across **1M** iterations in the hot path.

**Etcdd** | Go, gRPC | Distributed key-value store used by Kubernetes

Sep 2025

- Contributed multiple merged patches to etcd and its robustness-tests, improving test correctness and determinism.
- Eliminated duplicate delete/compact operations in robustness tests, reducing **linearization** and test overhead.

## PROJECTS

**Goof** | Go, Nasm, Linux | Self Project

Jan 2025 – Apr 2025

- Made **Turing-complete**, statically typed programming language inspired by Forth for Linux x86\_64 architecture.
- Developed a Go compiler directly emitting assembly, with lexical parsing, stack based IR and type inference.
- Generated statically linked ELF binaries and validated correctness with programs (Game of Life, recursion, sort).
- Support for **50+** built-in words spanning control flow, stack manipulation, memory operations and system calls.

## COMPETITIONS

**Inter IIT Tech Meet 11.0** | **Grow Simplee**

Backend Developer - High Prep Event | Node.js, MongoDB, AWS, gRPC, RabbitMQ

Jan 2023 – Feb 2023

Kanpur, India

- Part of the **Gold** winning team for Grow Simplee's Route Planning for Optimized Time Delivery Challenge.
- Deployed multiple HTTP and gRPC APIs and coordinated the overall workflow among different servers.
- Made the use of message queues using **RabbitMQ** for decoupling asynchronous requests from main server.
- Containerized services using **Docker** for quick testing and achieved **99.5%** uptime during **48-hour** competition.

## TECHNICAL SKILLS

**Languages:** C, C++23, Go, Java (22/17), Lua, Python, TypeScript, Bash, SQL

**Frameworks & Tools:** Spring Boot, Angular, Git/GitHub, Docker, Kubernetes, ArgoCD, GKE, PostgreSQL, Redis

**Testing & Quality:** Go testing/testify, JUnit, Mockito, Unit Testing, Integration Testing