Ashwani Kumar Kamal

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EDUCATION

Indian Institute of Technology Kharagpur   Kharagpur, West Bengal
Bachelor of Technology, Computer Science and Engineering — CGPA 8.82   *2020 - 2024*
Courses: Operating Systems, Compilers, Computer Networks, Computer organization & Architecture, Algorithms

EXPERIENCE

Schlumberger   Jul 2024 – Present
Software Engineer | Go, Java 22, Spring Boot, Kubernetes, Google Cloud Platform   *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   May 2023 – Jul 2023
Software Engineer Intern | Java 17, Spring Boot, Temporal, Postgres   *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 125ns** across **1M** iterations in the hot path.
- Further reduced method invocation overhead from **125ns to 28ns** for non-shared objects and **125ns to 98ns** for shared objects across **1M** iterations by eliminating unnecessary monitoring and locking on single-state paths

Etcd | *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**   Jan 2023 – Feb 2023
Backend Developer - High Prep Event | Node.js, MongoDB, AWS, gRPC, RabbitMQ   *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