Ashwani Kumar Kamal

+917906421152 | ashwanikamal.im421@gmail.com | ashwani-k-kamal | sneaky-potato

Education

Indian Institute of Technology Kharagpur — Kharagpur, West Bengal
Bachelor of Technology, Computer Science and Engineering — CGPA 8.82 — *2020 - 2024*

Delhi Public School Aligarh — Aligarh, Uttar Pradesh
Passed CBSE AISSE (Class X) with 93.17% and CBSE AISSCE (Class XII) with 98% — *2020*

Experience

Schlumberger — Jul 2024 – Present
Software Engineer | *Go, Java, Spring Boot, Kubernetes, Google Cloud Platform* — *Pune, India*

- Refactored core microservices to isolate customer **PII** data, improving compliance with internal privacy audits
- Migrated **1M** customer records to new identity schema, enabling email change workflow & reducing data coupling
- Designed and validated new identity-claim in authorization flows like ACF, CCG reducing latency by **12%**
- Decommissioned unused task services, cutting infra costs by **$630** per month and simplifying service topology

Piramal Retail Finance — May 2023 – Jul 2023
Software Engineer Intern | *Java, Spring Boot, Temporal, Postgres* — *Bengaluru, India*

- Designed architecture for generic scheduler allowing any service to schedule any function dynamically in workflow
- Developed microservice for orchestrating workflows and allowing other services to request a scheduled workflow
- Implemented a client for seamless integration of other services and their activity functions to scheduler architecture
- Added option to configure retry options, pass payload and timeouts for internal use of scheduler in organization

Open Source Contributions

Lunatik | *C, Lua, Linux* | Scripting the kernel with Lua — Dec 2025 – Present

- Member of the **Lua In Kernel** organization and regular contributor, focusing on kernel adjacent systems.
- Implemented **LLDP** server using raw AF_PACKET packets, demonstrating kernel-level packet I/O from Lua.
- Identified and eliminated undefined behavior at the Lua–kernel boundary by enforcing explicit **bind** contracts.
- Improved debuggability by fixing opaque errors by preserving method context via Lua upvalues and closures.

Etcd | *Go, gRPC* | Consistent, distributed key-value store used by *k8s* — Sept 2025 – Dec 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.
- Fixed client authentication behavior by disabling retries when JWT is explicitly set, preventing invalid auth flows.

Projects

Goof | *Go, Nasm, Linux* | Self Project — Jan 2025 – Apr 2025

- Made a **Turing-complete**, statically typed programming language inspired by Forth for Linux x86_64 architecture
- Developed a compiler directly emitting assembly in Go, supporting lexical analysis, parsing and **type inference**
- Added support for user functions, Linux system calls, conditionals, loops, macros and basic memory manipulation
- Wrote example programs like **game of life**, **bubble sort** and recursive **factorial** to showcase language capability

PaPAd: Practical and Private Advertising | *Prof. Satrajit Ghosh, IIT KGP* | Thesis Project — Apr 2024

- Did a literature review of the current systems in targeted advertising and analyzed Google's **FLoC** & **Topics**
- Proposed two protocols using cryptographic primitives for protecting user data and interests against ad platforms
- Applied the protocol by making flask servers and a chrome extension for simulating browser behaviour
- Collected chrome histories of peers and curated a **time-series** based attack with the goal of **re-identification**

Coursework Information

Computer organization & Architecture | *Operating Systems* | *Computer Networks* | *Machine Learning* | *Algorithms* | *Discrete Structures* | *Formal Language and Automata Theory* | *Software Engineering* | *Information Retrieval* | *Database Management Systems* | *Compilers* | *Probability & Statistics* | *Switching Circuits & Logic Design*

Technical Skills

Languages & Libraries: Go, C, C++, Java, JavaScript, Python, Bash, Lua
Frameworks & tools: Spring Boot, Git/GitHub, Docker, Kubectl, ArgoCD, GKE