

Sarthak Srivastava

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Telecom software engineer with hands-on experience in C/C++ and Golang, specializing in Linux-based low-latency, multi-threaded core network systems. Skilled in 4G/5G EPC and 5GC node design

Skills

- **Languages & Frameworks:** C, C++ (OOPS), Golang (node development, APIs)
- **Telecom & Protocols:** 3GPP specs, LTE/5G Protocols like S1AP, Diameter, GTPv2 and NAS
- **Linux & Systems Programming :** RedHat and Fedora Distros, tools like gdb and valgrind
- **Networking & Performance::** Network packet analysis Wireshark and TCPDump
- **Testing & Performance:** Unit & Integration Testing (Go test), Benchmarking, Load/Stress Testing
- **Development Practices and Version Control:** Git, CI/CD pipelines like Jenkins, Bash scripting, Jira

Experience

Capgemini Technologies – Software Engineer

08/2022 – Present

- Designed and implemented **core network nodes** compliant with **3GPP standards** across both 4G (EPC) and 5G Core (5GC) architectures.
- Developed the **DCCF node in 5G** using Golang, ensuring protocol compliance, session management, and integration with other 5GC functions.
- Worked in a team to build a **low-latency load balancer for the 4G Serving Gateway (SGW)** in Go, distributing user-plane traffic efficiently across multiple processing units and improving system throughput under DualCore/ComboCore setups.
- Designed, implemented and maintained the **Mobility Management Entity (MME)** from the ground up in Go, covering **NAS signaling handling, Diameter/TCP, SCTP/IP networking, and GTPv2 interfaces**.
- Applied **C/C++ and Golang** for low-latency, multi-threaded systems programming with an emphasis on **network protocol parsing and performance optimization**.
- Collaborated in cross-functional teams to integrate all of these NF nodes with **Docker/Kubernetes-based CNFs**, and validated results using **Wireshark/TCPdump**.
- Debugged and profiled applications using **Linux tools** such as **gdb, valgrind and perf** to diagnose memory leaks, race conditions, and performance bottlenecks.

Education

Indian Institute of Information Technology, Allahabad– *B. Tech.*

06/2018 - 06/2022

Completed Bachelors in Technology from IIIT Allahabad with **7.36** CPI.

Courses/Certifications

- Getting Started with Kubernetes by Nigel Poulton
- Introduction to Embedded Systems Software and Development Environments
- Microservices Architectural Design Patterns Playbook by Reg Dhiman.