KRITESH SEMWAL

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Professional Summary

Lead Software Engineer with **9 years of experience** in designing and developing scalable, high-performance, and reliable systems. Strong background in **systems programming (C/C++), Python, with expertise in distributed systems design, API engineering, system architecture, and performance optimization**. Skilled in debugging complex production issues, resolving critical customer escalations, and driving improvements that enhance both product quality and user experience.

Work Experience

Cloud Software Group (formerly Citrix), Bengaluru

Lead Software Engineer | Senior Software Engineer| Software Engineer 2 — *Jan 2019 – Present*

- **Netscaler**: (L4-L7 Application delivery controller)
- Developing NetScaler Next-Gen API, a declarative, desired state, and application-centric API that aims to abstract and simplify the low-level complexities of traditional NetScaler configurations.
- Engineered NITRO BATCH API to consolidate multiple NITRO API calls into a single request, significantly reducing network traffic. Delivered a **40% performance improvement** in NetScaler Console cloud service during large-scale configurations.
- Identified and fixed a deadlock in NITRO API request handling, eliminating lock contention and **boosting NetScaler GUI responsiveness by 5x under load.**
- Debugged and resolved **critical production issues (memory leaks, crashes, and performance bottlenecks)** across multiple C daemons, improving reliability.
- Developed the Go SDK for the NITRO API and implemented enhancements to the NITRO Python, Java SDKs, improving functionality and user experience.
- **NetScaler Console:** (Cloud-Based Management Platform)
- Developed the Console Advisory Connect feature, which automates on-boarding of NetScaler instances to the NetScaler Console cloud service, driving increased adoption among netscaler customers.
- Developed Netscaler Console **Multi-Tenant config model for scaling config distribution** to a large number Netscaler clusters following an eventual config consistency model. Designed and implemented microservices for various components in the control plane using Docker, Kubernetes, AWS, and other cloud-native technologies.

Axiom Research Labs (Teamindus GLXP Mission), Bengaluru

Teamindus Skywalker | Teamindus Ninja — *Jul 2016 – Dec 2018*

- Developed and tested various mission-critical software modules required by Mission Control for monitoring and controlling spacecraft and the lunar rover.
- Built offline telemetry data processing and display software modules for data telemetered down from the spacecraft compliant to the CCSDS standard. Designed an automated telemetry frame generator that eliminated the need for hardware-in-the-loop during validation and **reduced manual test effort by 80%**, accelerating ground software testing cycles.
- Designed and developed command scheduler which schedules telecommands from multiple payloads in round-robin fashion, **i**ntegrated with InfluxDB and Grafana to log and visualize execution metrics in real time.
- Contributed to development of rover console used for controlling lunar rover. Was developed using node-js, couchdb, angular-js-5. Also developed **WebSocket server and client libraries** for communication between web application and native C++ applications.

Skills

Programming Languages: C, C++, Python, Golang
Frameworks: Flask (Python)
Tools: Git, GDB, Wireshark
Databases: MySQL, PostgreSQL, Redis, InfluxDB
Cloud & DevOps: AWS, Docker, Kubernetes, Linux, FreeBSD

Education

Jaypee Institute of Information Technology, Noida — *2012 – 2016*

B. Tech in Computer Science