

RAVI KOOTHATI

+1 437 428 3399 • Toronto, Canada [PR] • ravikumark815@gmail.com • [Linkedin](#) • [Github](#)

SUMMARY:

- **Software Developer** with a Masters degree in Software Systems and an extensive experience of **7+ years** in developing System Platform Software, Network Datapath, Applications and Tools.
- Proficient in **Layers 2,3,4&7 networking, Network Security, Virtualization, Cloud Computing, Linux Internals, Containerization, Software Architecture**, with a keen grasp of latest technologies.
- Hands-on experience in design, configuration, development, and troubleshooting of diverse public and private cloud platforms and networking products including firewalls, routers, and switches.
- Adept at **debugging and optimizing system performance**, including resolving **kernel/user space issues, concurrency problems**, and **memory leaks**.
- **Collaborative team player** experienced in fostering relationships across cross-functional teams, contributing effectively to collective objectives, mentoring, and driving process improvements.

SKILLS & TECHNOLOGIES

- **Programming:** C, C++, Python3
- **Networking:** TCP/IP, Network Security, Routing, Switching, VPN (IPsec/SSL/TLS), NAT, VLAN, SR-IOV, SD-WAN, HA.
- **Cloud Platforms:** AWS, Azure, GCP, Oracle Cloud (OCI), Alibaba Cloud
- **Virtualization & Containerization:** KVM, VMware, Intel DPDK, Docker
- **Web Development:** HTML, CSS, Javascript, XML, JSON, REST.
- **Version Control and Management:** Git, Perforce, Jira, Confluence, Target Process, Agile, Kanban
- **Tools:** Visual Studio, Linux, Cisco TRex, MS Office, Windows

EMPLOYMENT

SOFTWARE ENGINEER	IBM SEVONE	APR 2024 – TILL DATE
-------------------	------------	----------------------

- | | | |
|---|--|--|
| <ul style="list-style-type: none">• Developed features and resolved critical bugs in the Network Management System (NMS), focusing on NAT support, peering, SNMP, and database integrity.• Implemented D-Bus and CAP_NET_ADMIN configurations to enable seamless Network Address Translation (NAT) between multiple NMS environments.• Enhanced cluster management by adding support for removing inaccessible peers and HSA nodes in active NMS environments.• Optimized SNMP communication by fixing IPv6 compatibility issues, ensuring dual-stack agent support.• Improved system stability by automating the removal of unknown kernel versions and enhancing Supervisord functionality post-HSA removal.• Hardened security by patching critical Golang dependencies and migrating container images to verified publishers.• Troubleshoot major escalations, resolving NMS upgrade failures, schema errors, ICMP plugin malfunctions, and SDP export issues, minimizing downtime for customers.• Enhanced device discovery and policy enforcement, ensuring consistent network monitoring and system reliability.• Optimized SQL schema updates, ensuring idempotent database migrations to prevent upgrade failures.• Collaborated with cross-functional teams, providing expertise on containerized deployments, OAuth2 OIDC authentication, and peering configurations, ensuring seamless integrations. | | |
|---|--|--|

SOFTWARE ENGINEER	CISCO INC.	AUG 2020 – MAR 2024
-------------------	------------	---------------------

- | | | |
|---|--|--|
| <ul style="list-style-type: none">• Developed and enhanced Cisco ASAc (containerized firewalls), integrating with SFCN using C, Docker, and Kubernetes for seamless network service chaining.• Enabled SR-IOV support for virtual NICs, adding compatibility for Broadcom NetXtreme and Mellanox ConnectX-5 DPUs in Cisco ASAv and FTDv deployments across Oracle Cloud and private cloud platforms.• Optimized performance by resolving NIC underruns, memory leaks, core dumps, CPS/PPS bottlenecks, and hot-plugging issues across public and private cloud environments.• Designed and implemented horizontal autoscaling for ASAv in Alibaba Cloud using Python3 and Terraform, improving scalability and resource efficiency. | | |
|---|--|--|

- **Migrated Azure virtual firewall deployments from Python 2.7 to Python 3.9**, addressing dependency challenges while upgrading **Wind River Linux OS and FXOS**.
- Upgraded key system components, including **Wind River Linux LTS 22, DPDK v21, and FXOS**, ensuring stability, improved performance, and compatibility with cloud platforms.
- **Enhanced troubleshooting and debugging capabilities** by integrating **datapath logs** into debug commands and **TAC reports** accessible via ASAv CLI.
- Actively contributed to development processes, including **code reviews, functional spec reviews, and CI/CD pipeline improvements**, fostering a high-quality and collaborative engineering environment.
- **Mentored and onboarded new team members**, providing guidance on best practices, debugging techniques, and cloud integrations.

SOFTWARE DEVELOPMENT ENGINEER	RED PIRANHA	MAY 2020 – AUG 2020
--------------------------------------	--------------------	----------------------------

- Developed features for Crystal Eye, a Linux based network operating system running on firewalls including **SSLVPN Module enhancements like LDAP Integration, Static IP configurations, SSL Perceive and Bump**.
- Designed system specifications for SSLVPN features and ensured seamless integration into the existing system.
- Collaborated on code reviews, test case development, documentation, and process enhancements.

SOFTWARE DEVELOPMENT ENGINEER	SONICWALL INC.	SEP 2017 – APR 2020
--------------------------------------	-----------------------	----------------------------

- Designed and implemented solutions to integrate **SonicWall Switches** with Firewalls, enabling granular control and end-user monitoring through a unified management interface.
- Resolved complex issues related to **wire mode interfaces, log monitoring, syslog analysis, FTP logging, and TSR exports** in SonicOS.
- Developed **CLI and API interfaces** for key features, including **Flow Reporting, ARP Storm Limit, AWS Integration, and SonicWall Switch Integration**.
- Built web-based tools like the **TSR Analysis Tool** and **EXP Viewer** using Python 3.7 and regular expressions to parse logs and display user-friendly outputs.
- Worked on a **web-based migration tool** to help customers seamlessly migrate configurations from other vendors (Cisco, Fortinet, Palo Alto, etc.) to SonicWall devices, minimizing transition friction.
- Diagnosed and resolved customer issues by replicating complex environments using tools like **vSphere, LAN bridges, SSL applications, content filtering, load balancing, VLAN, 802.1x, VPN**, and routing protocols.

EDUCATION

- [Master of Technology, Software Systems-Security](#). Birla Institute of Technology and Science 2021-2023 | GPA 3.6
- [Bachelor of Engineering, Computer Science & Engineering](#). Visvesvaraya Technological University 2011-2015 | GPA 3.0

CERTIFICATIONS & COURSES:

- [IBM SevOne NPM Overview](#) (April 2024)
- [Oracle Certified Cloud Infrastructure Foundations Associate](#) (Feb 2022)
- [Crystal Eye Certified Engineer](#) (CECE)
- [SonicWall Network Security Administrator](#) (SNSA)
- [Certified SonicWall Security Administrator](#) (CSSA)
- Cisco Certified Networking Associate (CCNA - Cisco Internal Course)

ACHIEVEMENTS:

- As part of Hackathon 2023, 1000eyes process was integrated to into containerd daemon running Cisco FTDv to improve network monitoring for customers.
- [Cisco Connected Recognition Award for extensive work on VirtIO issues](#) (Feb 2022) for resolving intricate VirtIO issues in ASAv/FTDv deployments in OCI, contributing significantly to product enhancement.
- [Cisco Connected Recognition Award for SR-IOV Support](#) (March 2021) for pioneering SR-IOV Support, optimizing performance in ASAv/FTDv deployments in Oracle Cloud Infrastructure.
- Recognized as a [SonicWall Technical Master \(April 2020\)](#) for comprehensive contributions to firewall development, bug resolution, and rapid customer environment deployments.
- [SonicWall Outstanding Contributor for Q4 FY 2019](#)
- [SonicWall Key Contributor for FY 2018](#)