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| **SUMMARY:** | | | |
| * **Software Developer** with a Masters in Software Systems and an extensive experience of **9+ 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, Bash, Terraform * **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, Kubernetes * **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 SOFTWARE LABS** | **APR 2024 – TILL DATE** | |
| **Networking and NAT Configuration:**   * Implemented D-Bus and CAP\_NET\_ADMIN configurations to address NAT issues and ensure seamless network address translation in enterprise-grade NMS environments. * Resolved IPv6 SNMP agent communication issues by reconfiguring snmpd for dual-stack agent address support.   **Kernel and System Management:**   * Automated the removal of unknown or obsolete Linux kernels through efficient shell scripting. * Enhanced Supervisord functionality for seamless operations in multi-peer environments post-HSA removal.   **Security and Modernization:**   * Patched critical Golang dependencies (jose2go, x/net) to address CVEs, bolstering application security. * Migrated container images to verified publishers or secure home-grown alternatives, ensuring compliance with enterprise standards. * Facilitated the inclusion of essential utilities like mlocate in NMS host environments for enhanced system management.   **Customer Escalation Management:** Collaborated with cross-functional teams to address high-priority escalations for enterprise clients, including VMware plugins and Verizon's SDP export issues. | | | |
| **SOFTWARE ENGINEER** | **CISCO INC.** | **AUG 2020 – MARCH 2024** | |
| **Firewall and Virtual Networking Development:**   * Developed features for **Cisco ASAc** (containerized firewalls) and integrated with SFCN using C, Docker, and Kubernetes. * Enabled **SR-IOV** **support** for virtual NICs on Cisco ASAv/FTDv deployments across Oracle Cloud and private cloud platforms. | | | |
| **Performance and Debugging Enhancements:**   * Resolved performance bottlenecks, including NIC underruns, memory leaks, CPS/PPS optimizations, and core dump issues in public/private cloud deployments. * Integrated datapath logs into debug commands for enhanced traceability and incorporated them into TAC reports generated via CLI. | | | |
| **Scalability and Cloud Integrations:**   * Designed and implemented horizontal autoscaling support for ASAv in Alibaba Cloud using Terraform and Python3. * Migrated Azure virtual firewall deployments from Python2.7 to Python3.9, addressing critical dependency issues.   **Kernel and Driver Upgrades:**   * Upgraded Wind River Linux to LTS 22, DPDK to v21, and FXOS for Cisco ASAv/FTDv, resolving compatibility and performance issues.   **Leadership and Collaboration:**   * Mentored new team members and onboarded them with best practices and technical guidance. Actively participated in code reviews, functional spec reviews, and process enhancements. | | | |
| **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.** | **JUN 2015 – 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](https://github.com/ravikumark815/certifications/blob/master/Masters_Degree.pdf), Software Systems-Security. Birla Institute of Technology and Science 2021-2023 | GPA 3.6 * [Bachelor of Engineering](https://github.com/ravikumark815/certifications/blob/master/Bachelors_Degree.pdf), Computer Science & Engineering. Visvesvaraya Technological University 2011-2015 | GPA 3.0 | | | |
| **CERTIFICATIONS & COURSES:** | | | |
| * [IBM SevOne NPM Overview](https://www.credly.com/badges/e4907a48-56e0-4c14-b171-fb61fdf15c33/linked_in_profile) (April 2024) * [Oracle Certified Cloud Infrastructure Foundations Associate](https://github.com/ravikumark815/certifications/blob/master/OCI-Foundations-2022.pdf) (Feb 2022) * [Crystal Eye Certified Engineer](https://github.com/ravikumark815/certifications/blob/master/Red_Piranha_Crystal_Eye_Certified_Engineer_16042020.pdf) (CECE) * [SonicWall Network Security Administrator](https://github.com/ravikumark815/certifications/blob/master/SNSA.pdf) (SNSA) * [Certified SonicWall Security Administrator](https://github.com/ravikumark815/certifications/blob/master/CSSA.pdf) (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](https://github.com/ravikumark815/certifications/blob/master/Cisco-Award-VirtIO-OCI-ConnectedRecognition.pdf) (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](https://github.com/ravikumark815/certifications/blob/master/Cisco-Award-SRIOV-ConnectedRecognition.pdf) (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)](https://github.com/ravikumark815/certifications/blob/master/SonicWall-Technical-Master.pdf) for comprehensive contributions to firewall development, bug resolution, and rapid customer environment deployments. * [SonicWall Outstanding Contributor for Q4 FY 2019](https://github.com/ravikumark815/certifications/blob/master/SonicWall_FY2019_Outstanding_Contributor.pdf) * [SonicWall Key Contributor for FY 2018](https://github.com/ravikumark815/certifications/blob/master/SonicWall_FY2018_Key_Contributor.pdf) | | | |