

RESUME

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Summary:

- Expert in Network Management applications design and development, Network Service Orchestration (NSO), Network Function Virtualization (NFV), SDN, Transport SDN (T-SDN), 5G, EMS/NMS, Network automation, with a broad work experience in software design and development for Networking domain.
- Networking Technologies:
Network Management, Orchestration and Automation, NSO, NFV, SDN, NMS/EMS, NETCONF, YANG, ODL SDN Controller, 5G Mobility, O-RAN, Telecom/Enterprise networking
- Languages/OS/Dev Platform/DB/Tools/Technologies:
Java, Python, C++, Node.js, React, Ubuntu, Centos, Eclipse, Git, Github, Bitbucket, Jenkins, MySQL, NoSQL (MongoDB), REST/SOAP, ActiveMQ, OSGi, Apache Camel, Agile, Jira, Rally

Education:

- MS Software Engineering, San Jose State University, CA – GPA 3.5
- M.Tech Opto-Electronics and Laser Technology, Cochin University of Science and Technology University, India
- B.Tech Electrical and Electronics, University of Kerala, India
- Qualified GATE (Graduate Aptitude Test in Engineering) with 79.64%

Work Experience:

- **Senior Software Engineer, at Cisco Systems, San Jose, CA, December 2018 – November 2020**

Job Profile:

Dev Platform/Tools: Java, Python, Centos, Eclipse, Git, 5G, NFV, O-RAN, L2/L3 VPN

Cisco Network Service Orchestrator (NSO) is an industry-leading software for automating services across traditional and virtualized networks. NSO is used to provision VNFs (Virtual Network Function) based on NFV (Network Function Virtualization), such as Virtual Router, Firewall etc., and also provisioning L2/L3 VPNs for Mobility transport, ensuring services are delivered in real time, at scale.

Worked on Java/Python based service package development for Cisco Network Service Orchestrator (NSO), supporting reusable network service orchestration framework for 5G NFV Mobility edge, core and transport networks. Worked on NSO NFV Day-1 service

(MME, SAEGW-C, SAEGW-U) package development for Rakuten 5G NFV. Also worked on vRAN (vCU and vDU) on-boarding. Working also on T-SDN L2/L3 VPN NSO package development for Mobility Transport. Also worked on O-RAN proposal and POC.

➤ **Senior Network Software Engineer at Equinix, Sunnyvale, CA (consultant), April 2018 –November 2018**

Job Profile:

Dev Platform/Tools: Java 8, Centos, Eclipse, Git

Equinix Cloud Exchange Fabric directly, securely and dynamically connects distributed infrastructure and digital ecosystems on Platform Equinix via global, software-defined interconnection, enabling enterprises to transparently extend their WANs into provider-hosted clouds.

Worked on the development of Java based Equinix VNF package for Cisco NFV NSO (Network Service Orchestrator) for providing northbound APIs for on-boarding and life-cycle management of VNF (Virtual Network Functions) such as Cisco CSR 1KV Virtual router WAN gateway and Juniper vSRX. The features/services supported by the VNF include BGP, Firewall, NAT and VPN/IPSec.

➤ **Software Engineer at Cisco Systems, San Jose, CA (consultant) Dec 2017 – Feb 2018**

Job Profile:

Dev Platform/Tools: Java 8, CentOS 7, Eclipse, NETCONF/YANG, NFV, REST, Git

vBranch is a Network Service Orchestrator (NSO) package that spins up VNF on virtual CPEs. vBranch, which is based on ETSI MANO specification, on-boards NFVIS device in to NSO, configures networks, image, flavor, spins up VNF and apply necessary service configuration templates.

Worked on fixing issues related to VNF onboarding, state management and notification handling

➤ **Senior Technical Architect, HCL America, Client - Calix, San Jose, CA, Aug 2017 – Dec 2017**

Job Profile:

Dev Platform/Tools: Java 8, CentOS 7, Eclipse NETCONF/YANG, SDN, REST, MongoDB, Git

AXOS Activate is the next generation management system for AXOS systems, providing a comprehensive set of FCAPS capabilities. The AXOS Activate software platform utilizes OpenDaylight (ODL) SDN platform enabling quick integration into new devices and platforms.

Worked on Device discovery and service provisioning for Calix NETCONF SDA devices E3 and E7.

- **Senior Software Engineer, Sungard Availability Services, San Ramon, CA, Feb 2016 – Aug 2017**

Job profile:

Dev Platform/Tools: Java, Linux, Eclipse, Node.js, REST, MongoDB, React.js, Git, Maven, Git, Bitbucket, Webstorm.

Sungard Availability Services build private cloud and public cloud-based services and solutions in DRaaS (Disaster Recovery as a Service). It provides disaster recovery of customer infrastructure, in terms of compute, storage and network. The Update Manager is a tool that enables application of OS patches on servers in the Sungard AS data centers.

Worked on Analysis, design, coding and testing of Disaster Recovery management application named Update Manager, based on Node.js, MongoDB, React and REST. Implemented an application to sync users from Domino Lotus DB to LDAP (Java/REST).

- **Software Engineer, Cisco Systems, San Jose, CA (Full time) Aug 2012 – Feb 2016**

Job profile:

Dev Platform/Tools: Java, Java EE, Linux, Git, Jenkins, Maven, SOAP, XML, RESTCONF/YANG, Spring Framework, Eclipse, ESB, Service Mix, Apache Camel, JMS, ActiveMQ, Karaf, OSGi, Jenkins, Maven, Spring Framework.

Cisco Evolved Programmable Network (EPN) Manager is a combination of element and network management (EMS/NMS) applications. It provides a Converged EMS & NMS platform, with Single Runtime Environment, single Database, single User Experience and a common Model Shared across Applications.

Worked on Analysis, design, coding and testing of RESTCONF/YANG and SOAP/MTOSI NBI for Cisco EPN Manager.

Also worked on Cisco Prime Central, Central provides a centralized web interface to all components of the Cisco Prime for IP Next Generation Network (NGN) suite of network management software, which integrates domain managers and service lifecycle management applications. Involved in analysis, design, coding and testing of new features for Cisco Prime Central Integration Layer. Work also included implementing camel routing and aggregation logic for vCenter Virtual Data Center Management.

- **Software engineer IV, Fujitsu Network Communications, Sunnyvale, CA, Oct 2005 – July 2012**

Job profile:

Dev Platform/Tools: Java, Linux, Sun Solaris 5.8, Eclipse, XML, UML, Ethernet, Optical Networking, GPON, SONET, SDH, DWDM.

The NETSMART 1500 Element Management System simplifies the management, provisioning and surveillance of Fujitsu Network Elements (NEs).

The NETSMART 1500 comprises a full suite of network and element management features, enabling service providers to quickly turn up Ethernet, Dense Wavelength Division Multiplexing (DWDM), SDH, ATM and SONET services.

Worked on Analysis, design, coding and testing of new features (using Java) for NETSMART 1500 Element Management System to support Fujitsu network elements like FLASHWAVE9500, FLASHWAVE4100 and FLASHWAVECDS. Worked on Ethernet data service (Carrier Ethernet) management features like Ethernet flow discovery.

➤ **Project engineer, Wipro Technologies, Bangalore, India, Mar 2003 – Oct 2005**
Job profile:

Dev Platform/Tools: C++, Sun Solaris 5.8, Eclipse, Optical Networking, PON, ADSL, Broadband Access

The Alcatel Access Management System (AMS) is the Alcatel Element Management System for 7340 FTTU (Fiber-To-The-User), 7330 FTTN, ASAM and Litespan Network elements. AMS resides at the Element Management Layer (EML) of the Telecommunications Management Network (TMN) operations mode, providing complete FCAPS functionality. The Alcatel 7340 AMS provides complete element management for the Alcatel ASAM, 7340 OLT and Alcatel 7340 ONTs.

Worked on Analysis, design, coding and testing of new Alcatel AMS (Access Management System) features for 7340 FTTU, 7330 FTTN and ASAM (ADSL).

Trainings:

- Attended 3-day training on Kubernetes and Docker Container Foundations – Cisco Systems, San Jose, April 6th – 8th, 2020
- Attended 4-day in-class training on Python for Engineers II – Cisco Systems, San Jose, November 16th – 19th, 2019
- Attended 4-day in-class training on Cisco Network Service Orchestrator (NSO) Advanced for Python programmers – Cisco Systems, San Jose, June 10th – 13th, 2019
- Attended 4-day in-class training on Python for Engineers I – Cisco Systems, San Jose, May 13th – 17th, 2019
- Attended 4-day training on Cisco Network Service Orchestrator (NSO) Essentials – Cisco Systems, San Jose, April 8th – 11th, 2019
- Completed Apache Spark with Java – Learn Spark from a Big Data Guru, on December 20, 2017 (Online Udemy course)
- Attended 2-day training on Docker Administrations and Operations – Cisco Systems, San Jose, October 19th – 20th, 2015
- Attended 1-day training on OpenStack – Cisco Systems, San Jose, April 13th, 2015
- Attended 3-day training on RESTful Java (Cisco in-class training, January 12th -14th 2015)
- Attended 2-day OpenDaylight Summit, Santa Clara, February 4th – 5th, 2014
- Attended 4-Day training on Enterprise Integration with Spring Framework on Feb 2012