**VIVEK RAJA E-Mail:** [vivek13raja@gmail.com](mailto:vivek13raja@gmail.com)

Senior Principal Engineer **Mobile:** +91 9110434521

**PROFESSIONAL SUMMARY**

* Overall, **13 years** of development experience in the IT Industry.
* Experience in **Python, Java, C++** programming languages.
* Experience in **Telecom, Networking** and **Data** Domain.
* Experience in **Network Modelling,** **IMS(4G/LTE), 5G RAN**, **5G Core**, **Network Slicing**, **Orchestration**, **Inventory, NFV, SDN**
* Experience in **Building and Managing the team**.
* Ample exposure to Designing, Coding, Testing and Debugging.
* Good exposure to SDLC and **Agile** Methodologies.
* Prepared **high-level and low-level design** documents.
* Provided **technical support to customers**, solving critical production issues.
* Worked with Product Managers, Product Owners, Senior Architects, in designing the solutions.
* Worked in both **Windows** and **Linux** environments.

**TECHNICAL SKILLS**

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| --- | --- |
| Primary | * Python, Java, C++ * 5G RAN (Radio Access Network), 5G Core, Network Slicing * Telco Cloud, NFV (Network Function Virtualization), SDN (Software Defined Networking), Segment Routing, Data Modeling * TMF standards, 3GPP, Open API Specification, Swagger, Postman * Rest API, Message Queue, Kafka * Microservices, Docker, Container, Kubernetes, Vagrant * Django, FastAPI * AWS, Azure, GCP, Cloud Computing (IaaS, PaaS, SaaS) * Git, Jenkins, GitLab, GitHub, Bitbucket, CI-CD Pipeline * Debugging Tools (pdb, gdb) * NumPy, Pandas, ETL, Data Pipeline, PySpark, Kafka, Ansible * Maven, Spring, Spring Boot, JavaScript, Shell Script |
| Domains | * Telecom (5G, IMS/4G, VoIP, SIP) * Orchestration (Ciena’s Blue Planet Orchestration) * Inventory (Ciena’s Blue Planet Inventory) * Network Data Modelling (Netbox) * Infrastructure Monitoring (NetIQ AppManager) * Networking (Routers, Switches, Gateways, Firewalls) * ETL (Extract, Transform, Load), Big Data |
| Databases | * SQL (PostgreSQL, MS SQL, SQLite, Vertica) * NoSQL (MongoDB) * Graph Database (Neo4j) |
| Basic Knowledge | * Angular, React, NodeJS * Directory Services, IAM, SAML, OAuth 2.0, OpenID Connect * Big Data, Data Lake, Hadoop, Spark * Data Science, AI and ML |

**EXPERIENCE SUMMARY**

**Present Employer:** Juniper Networks (Professional Services), Bangalore

As Senior Principal Engineer from April 2024

**Previous Employer:**

1. Brillio (for client: Ciena), Bangalore

As Senior Software Development Lead from February 2022 March 2024

1. Micro Focus (now OpenText), Bangalore

As Member Technical Staff from April 2018 to February 2022

1. Nokia Networks, Bangalore

As Software Engineer from Jan 2015 to March 2018

1. Wipro Technologies, Chennai

As Project Engineer from July 2012 to Jan 2015

**PROJECT DETAILS**

**BT GNV (Global Network Vision) (in Juniper Networks)**

BT's Global Network Vision (GNV) initiative aims to evolve and **modernize** its **Internet, VPN,** and **Ethernet** services. This converged solution focuses on enhancing service performance, scalability, and reliability, providing seamless and robust connectivity solutions to BT’s global customer base.

* Created **LLD** for **DDoS and LC (Legal Compliance)** on serviceonboarding and service provisioning.
* Implemented **onboarding** for services (DDOS, LC) by processing **TMF639** payloads for devices, cards, plugins, and bearer connections received from Vision.
* Developed **service provisioning** (DDOS, LC)using **TMF641** payloads for automated port activation and logical connection configurations across PE and TRA (Traffic Routing Analysis) devices.
* Experienced in using **NetBox** as a source of truth for managing, and **modelling** network infrastructure.
* Expertise in **Routing protocols**, **QOS**, **Openconfig, Netconf**, **YANG**, network automation, L2 and L3 layers.
* Familiar with **gNMI** (gRPC Network Management Interface) for network management and device configuration push.
* Extended and customized **Django** models in NetBox to accurately represent complex network entities, including DDoS service components, devices, and logical connections.
* Developed **Ansible Playbooks** to automate network configurations and updates.
* Designed and implemented jobs and workflows in **IAG** (**Itential Automation Gateway**) to streamline network tasks.
* Developed **custom scripts** and **Rest APIs** for automated data retrieval and updates.

**5G RAN-DO (in Ciena)**

RAN-DO (**Radio Access Network** - **Domain Orchestration**) enable enterprise customers to place service orders for secure, dedicated network slice with guaranteed Quality of Service (**QoS**) levels based on their desired connectivity needs. **Network Slicing** is a key architectural feature in **5G SA** (Stand Alone) that enables multiple virtual networks to be created on a single physical network infrastructure. Different service characteristics and quality parameters can then be provided to each 'slice' adapted to customer needs and with full isolation between slices.

* Implemented **Service model** for **NSI** (Network Slice Instance) and **NSSI** (Network Slice Subnet Instance) following **3gpp** standard specification.
* Created **helm charts** for RAN-DO RA for deployment to **Amazon EKS** (Elastic Kubernetes Service).
* Implemented authorization logic in RAN-DO RA using **OAuth2.0** to get access token from Tardis **Authorization Server** for accessing TMF 641 APIs of RAN-DO.
* Integrated various enterprise products like **BSS** (Business Support System), **MDSO** (Multi Domain Service Orchestrator), **5GC** (5G Core), **RAN** (Radio Access Network) as part of PoC to demonstrate service order placement.

**SD-WAN IAS Solution (in Ciena)**

Ciena’s Blue Planet offers SD-WAN IAS (Intelligent Automated Solution) as a managed service to enterprise customers which reduces operations cost, simplify service life cycle management.

* Implemented domain-based RA (Resource Adapter) for Juniper Mist **SD-WAN Controller** as part of **PoC** (Proof of Concept) in **pre-sale** enablement.
* Implemented **Rest APIs** (CRUDL support) for Microservice Gateway.
* Implemented ST (Service Template) to process **Service Orders** and **CFS** (Customer Facing Service) using Open API **TMF 641** (Order Management) and **TMF 640** (Service, Configuration) standards.
* Created **resource modeling** for network devices supporting various protocols like Rest, Netconf/YANG, Cli, SNMP.
* Designed **BPMN workflows** using **Camunda Modeler** for interface and port configuration.
* Created **Design document** for amend specific scenarios in Waves and HSE (High Speed **Ethernet**) feature development.

**OPTIC Data Lake (in Micro Focus)**

The OPTIC (Operations Platform for Transformation, Intelligence & Cloud) Data Lake (formerly known as the COSO (Collect Once Store Once) Data Lake), provides data storage platform with ability to handle data at a high ingestion rate with built-in analytical functions.

* Developed CMI (**Custom Metric Ingestion**) automation tool using PySpark to process and ingest custom data (metrics) from Metrics Datastore into Data Lake.
* Created **helm chats** for CMI automation tool to deploy and manage using Kubernetes.
* Built **Data Models** and **Data Pipelines** for Microsoft Exchange and Google Cloud Platform for data ingestion into Data Lake.
* Experience with **ETL (Extract, Transform, Load)** processes, **Kafka**, data profiling, data cleansing, and data validation techniques.
* Created Business Value **Dashboards** (BVD) and Performance Dashboards (PD) to visualize the collected data using **Grafana**.
* Implemented Operations Connector for **VROPS** (**VMWare vRealize** Operations Manager) to bring data about the events, topology and metrics to the OBM (Operations Bridge Manager) solution.

**NetIQ AppManager (in Micro Focus)**

The NetIQ AppManager provides a monitoring solution for system administrators with a central, easy-to-use console to view critical server and application resources across the enterprise. With AppManager, administrative staff can monitor computer and application resources, check for potential problems, initiate responsive actions, automate routine tasks, and gather performance data for real-time and historical reporting and analysis.

* Implemented features in modules like CiscoCM, CiscoUCM, AvayaCM, WebRT, Network Device, SharePoint, and Exchange for Infrastructure Monitoring.
* Fixed critical customer issues like **high CPU usage, memory leak**.
* Provided **post-sale** technical support to various customers.

**IMS Charging (in Nokia Networks)**

This Project involves development of Charging related features for various roles in IMS (IP Multimedia Subsystem) for CFX products. Charging can be realized as prepaid or postpaid billing.

* Implemented **Charging Diameter Interfaces** (Rf, Ro, and Bi interface) for TRF, IBCF, I-CSCF, EATF components of **IMS**.
* Implemented **IOI (Inter Operator Identifier)** recording for P-CSCF, S-CSCF and TRF components of IMS architecture.
* Implemented Mozilla Firefox Support for **WebRTC** Gateway.
* Written **Unit Test Framework** for IBCF Charging module.
* Worked in various layers of **IMS architecture**.

**Cisco’s Tandberg Video and VoIP Gateways (in Wipro Technologies)**

This project plays a major role in establishing and managing the video conference calls over VoIP. MCU, TMS, VCS and CUCM are the major modules of Tandberg.

* Implemented **Registration Event Package** feature (**RFC** **3680**) for **B2BUA** VoIP application.
* Implemented **TripleHF** (Triple Hook Flash) feature. (i.e., with "collect call" feature enabled, the call won't be terminated even if the callee On-Hook the phone for 1 min. By pressing TripleHF, the call can be terminated immediately).
* Hosted **Video Conference** using **MCU** by configuring **SIP** end points to **CUCM** and H.323 endpoints to **VCS** servers.
* Used **Asterisk and Kamailio** SIP Servers for feature development.

**EDUCATION:**

BE (Bachelor of Engineering) in **Computer Science** **and Engineering**

Anna University (2008 - 2012)

BE Percentage: 79.56%

12th Percentage: 84%

10th Percentage: 83.81%

**PERSONAL DETAILS:**

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| Gender | Male |
| Date of Birth | 13 Aug, 1990 |
| Nationality | Indian |
| Languages known | English, Tamil, and Telugu |