Praveen Sadanandan

Software Engineer Senior Staff - Full stack | Microservice | CI/CD | Database | AI/ML | Cloud | Networking

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Software Engineer Senior Staff at Juniper Networks with 19+ years experience developing and architecting projects in software engineering on Backend, Microservices, CI/CD, AI/ML, Database and Networking.

💼 Professional Experience

Juniper Networks 🔗

Mar 2010 – present
Bengaluru, India

Software Engineer Senior Staff

- Experience developing **scaled containerized distributed applications** capable of processing terabyte data, serving analytics and for handling daily release workload.
- Backend application development experience using **Python, NodeJS, Javascript,** relational, document & columnar database like **PostgreSQL, MongoDB, Cassandra**.
- Deployed stateful and stateless applications, services, ingress controllers with **Kubernetes** and **Docker** images, including deployment of sharded MongoDB replica sets, **Apache Kafka** broker cluster, **Redis** as in-memory cache, **Apache Airflow** orchestrator, **Nginx** server and controllers, **Apache Spark** on Kubernetes with **CI/CD** of **micro services** through **Gitlab**.
- Developed asset tracking application to scan and track usage of all network devices / components like routers, switches, traffic generators in the lab covering multiple platforms running different operating system. This application helped in reducing huge costs incurred by the organization by utilizing devices that are not optimally used.
- Experience developing **machine learning models** using **big data** and fine tuning **large language models (LLM)** like **BERT**, building pipelines for clustering and classification **natural language processing (NLP)** tasks. This helped boost productivity of engineers by helping them identify root cause of failures in very large log files quickly.
- Experience in on-premise infrastructure design, capacity and resource planning, software services administration, designing distributed systems with scalable and micro service based architecture.
- Developed application to provide engineering, product management and support teams with **insights / analytics** into products, platforms, releases, features used by customers by leveraging big data in silos with **data pipelines** to provide customer centric view to the organization.
- Experience in multiple full system implementation life cycles - analyze, design, build, test, deploy, support.

- Built automated scaling and performance tests for network devices with traffic generator like **IXIA** and **Spirent.**
- Experience in leading teams and interacting with other cross functional, cross-team, or cross-geography projects.
- Received multiple recognitions from organization for my contributions.

IXIA Technologies ⬈

Feb 2006 – Mar 2010
Bengaluru, India

Lead Engineer
- Experience in interacting with multiple customers across geo as part of providing professional services.
- Built customized solutions based on customer requirements that works seamlessly in customers' environment/infrastructure.
- Handled customer demos, evaluation support & training on product automation to win sales. Post-sales support and professional services were also provided to customers.
- Experience in networking protocols, IXIA network traffic generator applications, and automation.
- Automation experience with **TCL, Expect, Perl** and IXIA network traffic generator APIs.
- Gained multiple customer appreciation for my contributions.

Wipro Technologies ⬈

Mar 2004 – Feb 2006
Hyderabad, India

Project Engineer
- Experience in networking protocols and feature test automation.
- Automated multiple security feature tests for firewall products.
- Built libraries to help with crafting packets with anomalies and infected payload to test **firewall**.
- Automated application traffic generation like **SMTP, HTTP, TELNET, FTP**, etc between endpoints to test firewall features.
- Automation experience with **TCL, Expect**.
- Received recognition for my contributions.

HCL Technologies ⬈

Jul 2003 – Feb 2004
Chennai, India

Professional Practice
- Involved in telecom customer's application testing where number of bugs across UI and features were reported by me.
- Documented test scenarios performed and reproduction steps clearly.
- Worked on fixing application issues in **C++** and **Java** code base for issues raised by testing team and submitting the fix for code review.

🎖 Awards

Juniper Networks
- Juniper Networks Business Amp Award
- Juniper Networks CEO Team Excellence Award
- Juniper Networks Test Engineering Award
- Juniper Networks Department Spotlight Award - In My Group - 3 times
- Juniper Networks Department Spotlight Award - Outside My Group - 3 times

Wipro Technologies
- Wipro Technologies Feather In My Cap Award

🧠 Skills

Languages
- Python
- Javascript
- Typescript
- Golang
- Java
- C++
- Perl
- TCL
- Expect

Machine Learning
- Scikit Learn
- Hugging Face
- Spark ML

Distributed systems
- System design
- Databases
- Apache Airflow
- Apache Kafka
- Apache Spark

Microservices
- Kubernetes
- Docker

Version Control
- Git
- Gitlab with CI/CD
- SVN
- CVS

Libraries/Runtime Environment
- Fast API
- Flask
- Express.js
- Mongoose
- Numpy
- Pandas
- Pyspark
- Node.js
- React.js

Databases
- MongoDB
- PostgreSQL
- MySQL
- Cassandra
- Elasticsearch
- Neo4j
- Redis
- Snowflake

Cloud
Amazon Web Service

Networking
- Juniper routers/switches
- IXIA
- Spirent
- L2/L3 Protocols

Web
- Javascript
- Node
- React
- HTML
- CSS
- Apache
- Nginx
- SimpleSAML
- REST

Tools
- JIRA
- Gnats
- Visual Studio Code
- Pycharm
- Jupyter notebook
- Compass
- Postico
- Kibana
- TablePlus

🎓 Education

Sep 1999 – Apr 2003
Chennai, India

Bachelor of Engineering in Computer Science, *University of Madras*