

# Vivek Tiwari

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## SUMMARY

Sr. Software Developer with 10+ years of expertise in Infrastructure, Security, and Back-End development in web services in cloud infrastructure and on-prem. Worked extensively with Cloud Services and cutting-edge security solutions at Fortinet and Motorola Solutions. Excel in solving intricate Distributed Systems challenges hosted on cloud and on-prem, partnering closely with customers and sales to deliver secure and exceptional software.

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## EXPERIENCE

### Principal Member of Technical Staff

#### Oracle

May 2024 – Present, Redwood City, CA, USA

Oracle is an integrated cloud application and platform services that sells a range of enterprise information technology solutions.

- Led the effort in **QHIN conformance testing**, achieving **RCE certification** by ensuring complete compliance with Sequoia specifications.
- Directed external participant testing to verify that OHIN (Oracle Health Information Network) executed **all XUA transactions** in full alignment with partner networks.
- Designed and delivered the **SMART v2 implementation**, setting the foundation for future integration and interoperability.
- Initiated and developed the **QHIN Simulator**, aligning it with Sequoia testing specifications and preparing it for CI/CD integration.
- Built **reusable automation scripts** for security and transport validations, streamlining end-to-end gameday testing and reducing manual verification time.
- Resolved key infrastructure issues, including **Dockerfile configuration fixes**, enabling stable execution of initiation tools.

### Sr Software Developer

#### Zscaler

February 2024 – May 2024, Vancouver, BC, Canada

Zscaler is a global cloud-based information security company that enables secure digital transformation for mobile and cloud.

- Key member of the **Data Loss Prevention (DLP)** team, identifying system bottlenecks and implementing optimizations that improved performance by **5% within five months**, earning **high executive appreciation**.

### Sr Software Developer (Climate Tech/Sustainability)

#### BMO Radicle

November 2021 – January 2024, Remote, Canada

- Leveraged TensorFlow and Python to construct a linear regression model applied to carbon footprint estimation and energy consumption optimization for customers and climate-smart advisors.
- Integrated third-party energy data providers via webhook APIs to automate aggregation of energy consumption data using Ruby on Rails, simplifying data collection processes for Climate-smart advisors.
- Decreased software release time from > 5 hours to < 2 hours by migrating tech stack from Ruby(Rails) to Python(Django) and CI/CD from Ansible to GitHub Actions. Build the CI/CD pipeline on Github from scratch.

### Sr Software Developer (Access Control)

#### Motorola Solutions

November 2018 – October 2021, Vancouver, BC, Canada

- Led a team of 2 to deliver on time-critical features i.e User Authentication/Authorization (JWT), Rate Limiting(iptables), and uploading self-signed SSL certificate (OpenSSL-X509) for Access Control Manager(ACM) with RESTful APIs (Ruby on Rails). Saved millions in revenue by mitigating attacks and customer support time by enabling the SSL upload feature.
- Dockerized the development environment by making monolith into microservices and leveraging REST API to communicate in order to improve scalability by 20%, and also to make the dev environment more resilient. Gave tech talks to the team.
- Reduced report generation time from 20 minutes to under 5 minutes by leveraging Redis caching, batching API calls, and running the process asynchronously.

### Software Developer (Access Control)

#### Motorola Solutions

September 2016 – October 2018, Vancouver, BC, Canada

- Improved post-analysis for Rspec Automation Framework and expanded System/Hardware testing solutions by adding Raspberry Pi to automate card swiping. Saved 2 days of effort per person. Resulted in increased team effort for automation and post-analysis.
- Implemented web sockets for Biometric (Virdi) Integration with ACM in Ruby on Rails. Helped the organization's revenue go up by 20%.

### Software Developer (Sandbox/Data)

#### Fortinet

May 2014 – August 2016, Vancouver, BC, Canada

- Architected and deployed a cutting-edge, highly available web application (Web Filtering) on AWS utilizing Elastic Beanstalk. Pioneered the team's immersion in AWS as a versatile SaaS platform, effectively harnessing the system to quantify the sniffer engine's performance and promptly detect malicious samples.

- Analyzed and debugged TCP/IP and HTTP traffic and wrote a Test Automation framework to improve the isniff engine performance, achieving approximately 90% accuracy. Implemented this automation in Python using Scapy and Pytest.

## Software Engineer in Test (Network)

Procera Networks

November 2012 - April 2014, Kelowna, BC, Canada

- Designed and developed system automation scripts in Python and Bash for cross-platform systems which helped cover lots of platform testing in a day instead of 3 days, reducing testing time by 66%.
- Debugged network traffic capture using gulp, and wireshark for applications on different devices (iOS, Android, Windows) to test NAVL's cross-platform functionality, allowing the testing team to assess the platform's behavior on different devices, ensuring the platform met the SLA.

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## EDUCATION

### MASc, Electrical and Computer Engineering

University of Victoria • CA, BC, Victoria • 2012

### B.Tech in Electronics and Communication Engineering

National Institute of Technology, Durgapur • WB, India • 2009

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## CERTIFICATIONS

### Supervised Machine Learning: Regression and Classification

Coursera • 2023

- <https://coursera.org/share/6f91b4040d8f84385d91e7b312e430d8>

### Advanced Learning Algorithms

Coursera • 2023

- <https://coursera.org/share/1525a04420ada5b95f6dc69adc9b1b85>

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## SKILLS

Ruby(Rails), Python(Django/Flask), NodeJS, Java, Bash, Typescript, Perl, PHP, C/C++, Powershell (Windows, Linux, Mac)  
Version Control

Team Demos/Presentation, Workshop, Scoping, Planning, Documentation, Customer Focus

REST API, Postmap/Swagger(API Testing), Tensorflow, AWS, CI/CD, Telemetry(fluentbit/ELK/Grafana), Docker/Kubernetes, RabbitMQ, OWASP

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