Swapnil **Bhosale**

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Summary

Currently, interning with River Loop Security on their firmware analysis security platform. 4 years of software development experience specializing in **back-end development, IoT, machine-learning, distributed computing, computer security**. A Researcher, programmer, and computer security enthusiastic interested in learning every day make an impact, think outside of the box, and give back to the Computer Science community.

Education

University of Maryland Baltimore County
Maryland, USA

MASTER OF SCIENCE COMPUTER SCIENCE **GPA: 3.8**
Expected May. 2021

- Practical experience with Qubit (Qiskit) and Annealing based (D-Wave) **Quantum Computing** and applications.
- Quantum Computing projects involved implementing Zoom like meeting platform, virtual background **Image Segmentation**, and experimenting **Feature Selection** in machine learning for *IEEE BigData 2019 Cup* Suspicious Network dataset
- Researching and working closely with **Dr. Anupam Joshi** for the master's thesis. Involved experimenting and extending **Adversarial Generative Machine Learning Model** using GAN-BiLSTM for **Anomaly Detection**
- Working with Dr. Anupam Joshi as a Research assistant with the **Ebiquity Research Lab**. *Working on a Windows Kernel Driver* for **Rootkit Detection**

Work Experience

VMware
Bellevue, WA, USA

INTERN-MEMBER OF TECHNICAL STAFF
May. 2020 - Aug. 2020

- Extended AWS VM & Region support for cloud-based container life-cycle management platform. Increased business value matrix by **5%**
- **Reduced** user waiting time by ~**10 min.** Developed AWS Service Quota verification back-end system for container orchestration
- Contributed to various back-end micro-services using GO-lang. Participated in poster and Hackathon competition
- **Technologies:** Machine Learning, AWS, Azure, server-less computing, GO-lang, Python, Docker, Kubernetes, Postgress, CI/CD, Jenkins, etc.

Pratiti Technologies
Pune, MH, India

SOFTWARE ENGINEER
Jun. 2018 - Jul. 2019

- Lead, Contributed, & implemented new back-end micro-services in spring boot, node js & python for cloud-based IIoT platform.
- Took complete ownership of server-less functions (Azure and AWS) from the on-site team within ~**2 weeks** of knowledge transfer
- Designed & adapted **Cloud Agnostic Solution** for the cloud IIoT platform. Devise a solution One code for Azure, AWS, and Alibaba cloud platforms, realized using docker technology
- Researched and implemented **Azure API mock lib** in Node JS. Value-added to company's asset and widely adopted as a mocking library for Azure deployed services in the company's product
- **Technologies:** Node JS, Spring Boot, Java, Python, Typescript, MySQL, SQS, RabbitMQ, WebSockets, Docker, Jenkins, Cosmos, Dynamo DB

Xoriant Solutions pvt. ltd
Pune, MH, India

SOFTWARE ENGINEER
Sep. 2017 - Jun. 2018

- Core member, designed, lead & implemented **Software Development Kit** (SDK) for the communication platform of SAP
- Configured the CI/CD pipeline with docker and shell script to auto-configure docker images for multi-environment deployment
- Implemented Web Authentication filters/logic in API gateway(back-end service) and Nginx load-balancer using OAuth2 - JWT
- Core member of enhanced API version design, implementation, and delivery. Worked with multiple teams
- **Technologies:** Spring-Boot, Docker, Bamboo, Hazelcast, micro-services, Kubernetes, SAP HANA DB, Java, Nginx, JWT, OAuth, Swagger

Great Software Lab
Pune, MH, India

SOFTWARE ENGINEER
May. 2015 - Jul. 2017

- Researched Machine Learning Model for energy optimization & deployed to pilot testing plant resulted in **25% energy savings.**
- Contributed to WebRTC and Vidyo based conferencing, webcast, webinar solutions with screen share and guest joining capability
- Core member for Avaya Snap-In development. Adopted by the company and demoed in various **VoIP conferences**
- **Technologies:** Machine Learning, IoT, REST, VoIP, WebRTC, PHP, Python, NodeJS JQuery, Spring boot, C++, Java, Raspberry pi, HTML

Additional Contributions & Achievements

- **Country to Country CTF 2020** Participant
- George Mason **CTF Winner** with **Team CyberDawgs**
- NSA CodeBreaker 2019 solved 5 problems
- Contributed to JVM implementation in Rust - **JVM-RS**. Implemented Java Operators parsing and logic. Successfully ran toy Java program
- Implemented **CHIP-8 emulator** from Scratch. Had fun playing those old games again on my laptop
- Contributed to the **azure-function-express** NodeJS library. Implemented logging and resolved bug