

# Swapnil Bhosale

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## Summary

5+ 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

Aug 2019 - Aug 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
- Researched and worked closely with **Dr. Anupam Joshi** for the master's thesis. Involved experimenting and extending **fastText NLP technique** using LSTM for **Anomaly Detection in Windows O.S**
- Worked with Dr. Anupam Joshi as a Research assistant with the **Ebiquity Research Lab**. *Implemented a Windows Kernel Driver* to tap into **file, registry and network** events at kernel space

### University of Pune

Maharashtra, India

BACHELOR OF ENGINEERING, COMPUTER ENGINEER - **FIRST CLASS WITH DISTINCTION**

Aug 2011 - May 2014

- Published a academic research paper on **RFID based Bus Management System**. Tracks buses using RFID technology, solved shortcoming of GIS, GPS system.
- Participated in various intra-college coding competitions.

## Work Experience

### Microsoft

Mountain View, CA, USA

SOFTWARE ENGINEER 2

Jan. 2022 - Till date

- Lead a team of 4 member for the products around Network Virtual Appliance in the Azure Networking
- Involved in the creating architecture & design for the new features, collect requirements from product owners.
- Researching and mitigating the customer reported incident, writing a RCA documents
- **Technologies:** C#, Azure, Cloud, back-end

### PayPal

Timonium, MD, USA

SOFTWARE ENGINEER 3

Jun. 2021 - Nov 2021

- Working on the PayPal credit platform backend development activities
- Involved in the adding the new countries for the PayPal Pay Later product.
- **Technologies:** Java, Node JS, Docker, Spring Boot

### Sky Peak Technologies

BO, CO, USA

INTERN - SOFTWARE ENGINEER

Feb. 2021 - May. 2021

- Researched and deployed an infrastructure monitoring stack using Grafana and Prometheus. Also implemented a infra interaction CLI utility using Ansible
- Developed a load and performance testing script using JMeter
- Developed functional testing suite using Cypress for browser testing
- Maintained and added support for the new REST API endpoints
- **Technologies:** Python, Java, Node JS, Docker, Kubernetes, GO lang, Shell script, Grafana, Prometheus, JMeter, Cypress, load testing

### Pilot Security

Baltimore, MD, USA

INTERN - SOFTWARE ENGINEER

Sep. 2020 - Dec. 2020

- Devised and implemented Python library, used as a parent library for all the analysis pipeline tasks
- Implemented web Crawlers using Scrapy to download firmwares for different vendors and automate the testing
- Added a feature to read, display and export Software Bill of Materials(SBoM) for analysed firmware binary file. Worked with React JS code and added new reusable components
- **Technologies:** Python, Docker, Kubernetes, React-JS, GraphQL, CI/CD, Jenkins, Binary Ninja, reverse-engineering

### 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

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- **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