Jayraj Mulani

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Education

North Carolina State University, Master of Computer Science	**Aug 2022 – May 2024**
Computer & Network Security, Software Engineering, Software Security, DevOps, Cloud Computing	*GPA: 4.0/4.0*
Nirma University, B.Tech. in Computer Engineering	**Jul 2016 – Jun 2020**
Computer Networks, Database Management Systems, Deep Learning, Operating Systems, Algorithms	*GPA: 9.14/10.0*

Skills

Languages:	Java, Python, JavaScript, SQL, C/C++, HTML/CSS, Shell
Frameworks:	Django, Flask, React, Spring-Boot, Angular, PostgreSQL, Redux, MySQL, MongoDB, MariaDB
Tools & Technologies:	Linux, Terraform, Docker, Ansible, Jenkins, OAuth2.0, Github, Jira, Keycloak, Agile, AWS, GCP
Certifications:	*Oracle Cloud Infrastructure - Architect Associate* ↗, *Amazon Web Services - Cloud Practitioner* ↗

Work Experience

North Carolina State University: Graduate Research Assistant | Full-Stack Development — **Sep 2022 – May 2024**

- Spearheaded the development, deployment, and maintenance of RABapp - an industry-leading biosecurity and contact tracing application, as a **Full-Stack Developer** utilizing **Angular, Java Spring boot, PostgreSQL, Keycloak & Docker**.
- Created asynchronous Python scripts to reduce manual efforts by leveraging **Pandas, openpyxl, regex** libraries to process files & data.
- Ensured transition of high-quality code to production through rigorous **code reviews** and constructive feedback.
- Revolutionized biosecurity practices and made a profound national impact by implementing Agile methodologies and Scrum practices in the development of RABapp, currently leveraged by over **15** US State Health Officials.

Oracle: Software Developer 2 | Applications Engineer — **Sep 2020 – Jun 2022**

- Collaborated in design, development & deployment of **Terraform** based service to audit and automate provisioning and decommissioning of cloud resources at a Global Business Unit (GBU) level.
- Proposed & automated critical patch update process to save over **100** man-hours per quarter using **Jira APIs & OCI Python SDK.**
- Demonstrated leadership and collaboration skills by mentoring a team of **3**, leading **4** projects & conducting technical interviews.
- Tested, replicated and fixed **78** bugs in Oracle Fusion App Suite, built in Oracle Application Development Framework.
- Ensured backwards compatibility by patching and back-porting over **20** bug fixes and enhancements.

Oracle: Project Intern — **Jan 2020 – Jun 2020**

- Developed an auto-backup tool in Python for synchronizing large server files with OCI Object Storage to ensure **disaster recovery**.
- Implemented asynchronous solution to manage and track cloud resource allocation processes using **Jira APIs, Django & React.js**.
- **Dockerized** and deployed on Oracle Cloud Infrastructure (OCI) leveraging Compute & Autonomous Database.
- Applied Critical Patch Updates (CPUs) on **7** clustered **Linux** environments to ensure enhanced **security** with minimum downtime.

Tata Consultancy Services: Summer Intern — **May 2019 – Jul 2019**

- Reduced manual testing time by developing a semi-automated API testing tool named "API Scoreboard" using Angular & Spring-boot.
- Deployed API Scoreboard on **Amazon Web Services** by leveraging services like Elastic Beanstalk, RDS, S3 & EC2.

Projects

From Chaos to Control: Terraforming a New DevOps Era ↗, DevOps, Academic Project — **Aug 2023 – Dec 2023**

- Orchestrated a DevOps pipeline utilizing Ansible, Docker, GitHub Actions, and **Terraform** for automated resource provisioning.
- Streamlined deployment of a NodeJS application on Google Cloud Platform (**GCP**), ensuring a robust & scalable infrastructure.

JobTrackr ↗, Software Engineering, Academic Project — **Sep 2022 – Dec 2022**

- Automated end-to-end deployment on **AWS EC2** by engineering a **CI/CD pipeline** by utilizing **Github Actions, Ansible & Jenkins.**
- Accelerated release cycles, enhanced scalability, and fostered team collaboration by implementing **Agile** development practices.

ERP System, Raahee Multipack Pvt. Ltd., Freelance Project ↗ — **Aug 2021 – Mar 2022**

- Designed and implemented a fully functional ERP application in **React.js & Python Flask** for a packaging manufacturing company ↗
- Deployed the app on OCI and improved operational efficiency by **40%**, supporting **120** employees with essential operations.

Inaudible ↗, Deep Learning, Academic Project — **Jun 2019 – Dec 2019**

- Empowered deaf individuals to comprehend English audio by delivering a PoC to translate English Audio to ASL video in real-time.
- Performed comprehensive preprocessing on over **30GB** of American Sign Language (ASL) video and CSV datasets.
- Leveraged Natural Language Processing (NLP) and Neural Machine Translation (NMT) techniques to achieve **67%** accuracy.

Publication

Mulani, J., Heda, S., Tumdi, K. Deep reinforcement learning based personalized health recommendations. In Deep Learning Techniques for Biomedical and Health Informatics (pp. 231-255). Springer, Cham. ↗