

# Jayraj Mulani

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## SUMMARY

Software Engineer with 3+ years of experience in Full Stack Software Development, Cloud Computing and DevOps.

## WORK EXPERIENCE

### The Machado Lab, NCSU | Full Stack Developer

Jun 2024 - Present

- Upgraded **Angular**, **Spring Boot** to address vulnerabilities, significantly reducing the codebase size and clearing technical debt.
- Led the full stack development of RABapp in **Java Spring Boot**, **Angular**, **PostgreSQL**, **Keycloak**, **Docker**, **Localstack**.
- Maintained cloud infrastructure on **AWS** (ECS, RDS, Lambda, S3, SES) using **Terraform** IaC and engineered Github Actions based **CI/CD** pipeline, improving deployment speed and system reliability.
- Created **AWS Lambda** functions for image processing and email notifications, and implemented structured logging in **SLF4J**.

### North Carolina State University | Graduate Research Assistant | Software Engineer

Sep 2022 - May 2024

- Enhanced API performance by **5 times** using **multithreading** and **CompletableFuture**-based **asynchronous** REST APIs.
- Conducted **usability tests** with state and company officials to improve **UX**, expanded reach to **27 US states** (87% growth).
- Developed **pandas** and **openpyxl** based **Python** scripts to automate file and data processing, reducing manual efforts by **50%**.
- Leveraged **Scrum** methodology to deliver robust production-ready code & reduced **40%** bugs through rigorous **code reviews**.
- Managed recruitment by redesigning coding challenges, screening applicants, conducting interviews and onboarding new hires.

### Oracle | Software Developer 2 | Applications Engineer

Sep 2020 - Jun 2022

- Collaborated in design, development and deployment of **Terraform** based service to automate provisioning and decommissioning of **Oracle Cloud** resource stacks across compartment hierarchies. Tech Stack: **React.js**, **Python Django**.
- Automated critical patch update process to save over **100** man-hours per quarter utilizing Jira APIs and OCI Python SDK.
- Engaged with global teams to develop and enhance Oracle Learning Cloud, resolving **70+** critical bugs and issues for **45+** clients.
- Utilized Oracle **SQL** and **PL/SQL** to execute 15 data fixes on large scale databases with over **10M rows**, ensuring data integrity.
- Ensured backwards compatibility by patching and back-porting over **20** bug fixes and enhancements, improving product stability.

### Oracle | Software Engineering Intern

Jan 2020 - Jun 2020

- Synchronized large archive files (up to **50 GB**) with Object Storage, ensuring disaster recovery and automating backup processes.
- Implemented asynchronous solution to manage & track cloud resource allocation processes using Jira APIs, Django & React.js.
- Applied Critical Patch Updates on **7** clustered **Linux** environments to ensure **enhanced security** with minimum downtime.

## SKILLS

<b>Languages:</b>	Java, Python, TypeScript, JavaScript, SQL, C/C++, HTML/CSS, Shell
<b>Frameworks &amp; DBs:</b>	Django, Flask, React, Spring-Boot, Nodejs, Angular, Redux, MySQL, MongoDB, PostgreSQL, REST
<b>Tools &amp; Technologies:</b>	Linux, AWS, Terraform, Docker, Kubernetes, Ansible, Jenkins, OAuth2.0, Git, Grafana, GCP, Prometheus
<b>Key Competencies:</b>	Distributed Systems, Cloud Architecture, SDLC, Agile, DevOps, Microservices, System Design
<b>Certifications:</b>	Oracle Cloud Infrastructure - Architect Associate   Amazon Web Services - Cloud Practitioner

## EDUCATION

### North Carolina State University | Master of Computer Science

Aug 2022 - May 2024

Computer and Network Security, Software Engineering, Software Security, DevOps, Cloud Computing

GPA: 4.0/4.0

### Nirma University | Bachelor of Technology in Computer Engineering

Jul 2016 - Jun 2020

Computer Networks, Database Management Systems, Data Mining, Operating Systems, Algorithms

GPA: 9.14/10.0

## 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 app on **Google Cloud Platform (GCP)**, ensuring a robust and scalable infrastructure.
- Implemented continuous system metrics monitoring with **Prometheus** and developed comprehensive dashboards using **Grafana**.

### Drone Fleet Management Solution | Cloud Architecture Design | Academic Project

Jan 2023 - May 2023

- Designed a secure, scalable cloud infrastructure for drone fleet management app on **AWS**, utilizing **DynamoDB**, **ELB**, **ECR**, and **EKS** to ensure high availability and reliability within a distributed environment.
- Conducted **Kubernetes** experiments on load balancing and auto-scaling across two AZs, optimizing resource allocation and improving system scalability by **35%**.

### ERP System | Raahee Multipack Pvt. Ltd. | Freelance Project

Aug 2021 - Mar 2022

- Designed and implemented a fully functional **ERP** app in **React.js** and **Python Flask** for a packaging manufacturing company.
- Deployed the app on OCI and improved operational efficiency by **40%**, supporting **120** employees and meeting customer needs.