Alex Chen

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## Summary

Detail-oriented Computer Science student with a strong foundation in automation, cloud infrastructure, and a keen interest in integrating robust testing strategies into CI/CD pipelines. Seeking a DevOps Engineer Internship to apply practical experience with Docker, Kubernetes, AWS, and Jenkins, with a specific focus on building reliable and testable systems. Eager to contribute to a quality-driven engineering culture.

## Education

Bachelor of Science in Computer Science | Expected Graduation: May 2025

San Francisco State University, San Francisco, CA

GPA: 3.8/4.0

Relevant Coursework: Software Engineering, Software Testing & Quality Assurance, Cloud Computing, Distributed Systems, Linux Administration

## Technical Skills

Programming/Scripting: Python, Bash, YAML, Java

OS & Tools: Linux (Ubuntu, CentOS), Git, Vagrant

Cloud Platforms: AWS (EC2, S3, IAM, CloudWatch), GCP (Compute Engine, Cloud Storage)

Containerization & Orchestration: Docker, Docker Compose, Kubernetes (Minikube)

CI/CD & Automation: Jenkins, GitHub Actions, Ansible

Infrastructure as Code (IaC): Terraform

Testing & Monitoring: Pytest, Selenium, JUnit, Prometheus, Grafana, SonarQube (Basic)

Projects

Multi-Stage CI/CD Pipeline with Integrated Testing | [github.com/alexchendev/cicd-pytest-demo]

Designed a Jenkins pipeline for a Python Flask app that automatically triggers on Git commits.

Implemented a multi-stage testing process: Unit Tests (Pytest), Integration Tests (Pytest with test database), and Static Code Analysis (SonarQube scanner).

Containerized the application using a multi-stage Dockerfile, reducing the final image size by 60%.

Pipeline gates prevent deployment to the AWS EC2 staging server if any test stage fails, enforcing quality control.

Configured Amazon CloudWatch alerts to monitor the health of the deployed application.

Test Infrastructure for Microservices using Kubernetes | [github.com/alexchendev/k8s-test-env]

Provisioned a local Kubernetes cluster using Minikube to simulate a production environment.

Deployed a mock "user service" and "auth service" with dedicated test and production namespaces.

Wrote Kubernetes Jobs and Bash scripts to automatically run integration test suites against the service cluster after deployment.

Used Kubernetes ConfigMaps to inject environment-specific variables (e.g., test database URLs) into the test runners.

Visualized test results and cluster metrics using Grafana dashboards.

Automated Testing of IaC with Terraform & Checkov | [github.com/alexchendev/terraform-security-demo]

Developed Terraform scripts to deploy AWS infrastructure (VPC, EC2, Security Groups).

Integrated Checkov static analysis tool into a GitHub Actions workflow to scan Terraform code for security misconfigurations and compliance issues before terraform apply.

The pipeline fails if critical security issues are found (e.g., a security group allowing insecure inbound rules), preventing the deployment of vulnerable infrastructure.

Demonstrated the ability to write secure, testable, and compliant Infrastructure as Code.

Experience

CS Department Grader - Software Testing Course | San Francisco State University | San Francisco, CA | Jan 2024 – Present

Evaluate and provide feedback on 50+ student assignments focused on writing JUnit and Pytest cases, code coverage, and test-driven development (TDD).

Identify common errors in test logic and assist the professor in clarifying testing concepts, deepening my own understanding of test quality and effectiveness.

Certifications & Courses

AWS Certified Cloud Practitioner | 2023

Coursera - Introduction to Kubernetes | 2024

Udemy - Python for DevOps: Learn Linux, AWS, Docker & Kubernetes | 2023

Additional Information

Languages: English (Fluent), Mandarin (Conversational)

Activities: Vice President, University Cloud Computing Club; Volunteer Instructor at "Code for Teens" workshop.