Nafiseh Valizadeh (She/Her)

Cloud/DevOps Engineer

Email: valizan@mcmaster.ca
Phone: +1 (905) 609-4039
Portfolio: v-nafiseh.github.io
Git: github.com/v-nafiseh
Linkedin: linkedin.com/in/nafiseh-valizadeh

Highlights of Qualifications

- Skilled in automation and orchestration using Ansible, Kubernetes, and shell scripting, gained through hands-on work in scaling and deploying cloud container environments.
- Experience in high availability and fault tolerance testing, with a focus on regression testing and performance monitoring in Kubernetes clusters.
- Skilled in algorithms and object-oriented design principles, demonstrated by ongoing thesis project and comprehensive course projects.
- Hands-on experience with both relational (e.g., PostgreSQL) and non-relational databases (e.g., MongoDB) for data management in cloud environments.
- Developed strong teamwork and communication skills through collaborative work on agile projects in industry setting.

Education

McMaster University Sep 2022 - Now
Master of Applied Science in Software Engineering *Hamilton, ON, Canada*

Alzahra University Sep. 2017 - April. 2022
Bachelor of Engineering in Computer Engineering *Tehran, Iran*

Research and Work Experience

CCDPP (Cloud Container Distribution Pre-provisioning) Ericsson
Integration Engineer Intern *May 2024 - Now*

- Automated scaling operations for production-ready Kubernetes clusters using Ansible, improving operational efficiency.
- Conducted continuous regression tests to ensure high availability and fault tolerance, identifying and troubleshooting bugs in the CCD platform.
- Contributed to feature enhancement of bulk OS patching scripts and supported bug discovery and resolution for the latest platform release.

Kubernetes Performance Model McMaster University
Research Assistant *Sep. 2022 - Now*

- Leading the design and development of a Kubernetes performance model, grounded in Markov models theory, aimed at simulating cost-effective cluster setups for complex software systems.
- Employing discrete event simulation (DES) to develop performance model, ensuring it accurately reflects real-world system behavior using Python.
- Utilizing MongoDB for efficient data management and storage.

Cloudzy Infrastructure as a Service Cloudzy
DevOps Engineer Intern *Nov. 2021 - March. 2022*

- Contributed across multiple phases of the cloud service development cycle (build, test, deploy, and monitoring), utilizing technology stacks including Docker, Ansible, PyTest, Prometheus, and Grafana.
- Automated the management of recurring infrastructure issues and incidents using scripting languages, enhancing operational efficiency and system reliability.

Skills

Programming: Python, C++, Java, SQL, MongoDB, Shell Scripting, Django, HTML, CSS

Operating Systems: Linux-based systems

DevOps Tools: Git, Ansible, Docker, Kubernetes, Prometheus, Grafana, PyTest, K6, Jira

Main Projects

Azure VMs Capacity Planning McMaster University-Cubic Transportation
Python, BlazeMeter, AppDynamics *Jan 2023. - Oct 2023*
Designed a capacity planning tool for suggesting the optimizaed number and configuration of VMs for Cubic transportation company. Employed linear optimization given the key performance indicators of each VM (throughput and response time) to suggest cost effective set of VMs for each application

McFood Delivery System McMaster University
Spring Boot, PostgreSQL, Docker *Sep. 2022 - Dec 2022*
Developed a microservice web application for food delivery using Spring Boot. The application comprises various services including food-provider, user-management, tracker, billing, and cart-management, all communicating through REST API and RabbitMQ. Initially designed based on Hexagonal Architecture principles, these components were effectively transformed into individual microservices.

API Management System Alzahra University
JavaScript, K6, Prometheus, Grafana *Jan. 2022 - April 2022*
Designed an API management system to centralize the APIs of various companies, enhancing merchant accessibility to these services. The system's architecture includes a Gateway for handling incoming requests, a developer portal for buyer access to purchased APIs, a repository for API records, and a monitoring component for continuous health checks through load testing. Implemented continuous performance tests using K6, an open-source testing tool, and monitored real-time data using Prometheus.

Book Management Alzahra University
Spring Boot, PostgreSQL *May. 2021 - June 2021*
Developed a Spring Boot web application for a bookshop, facilitating book access management for users and enabling authors to publish their works. The project is structured on MVC architecture, with components (Book, Authentication, Search) communicating via REST API. Data storage is efficiently handled using a PostgreSQL database.

Question and Answer Forum Karademy Bootcamp
Django, Bootstrap, PostgreSQL *Sep. 2020 - Dec 2020*
Developed a question-and-answer web application, akin to Stack Overflow, enabling users to post questions and provide answers. The project was architecturally designed using the MVT (Model-View-Template) framework in Django. Database models were meticulously crafted in conjunction with UML diagrams to ensure a robust and efficient structure.

Teaching – Teaching Assisting

Performance Analysis of Computer Systems Winter 2024
- Taught mathematical modeling and simulation for computer systems behavior analysis and performance evaluation.
- Guided infrastructure design decision making based on modeling results.

Software Testing Winter 2023
- Assisted tutorial classes for over 250 students
- Helped students in understanding various functional and non-functional testing methodologies.
- Guided students in using JUnit as a testing framework.

Computer Architecture Winter 2022
- Assisted students in grasping the concepts of CPU instructions and pipeline processing.

Operating Systems Lab Fall 2021
- Conducted tutorial sessions to educate students about the basics of Linux kernel and Unix operating systems.

Linux LPIC1 Workshop June 2021
- Held a workshop for teaching the LPIC1 concepts to students from different universities