Nafiseh Valizadeh (She/Her)

Cloud/DevOps Engineer

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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 tool to optimize VM count and configuration using linear optimization for cost-effective application deployment based on key performance indicators such as throughput, utilization and response time.

Jackson Network Simulation McMaster University
Python, Numpy, Markov Model *Dec. 2022 - Jan 2023*
- Developed a simulation of Jackson networks to evaluate service quality constraints like response time in server and VM networks, suggesting the most efficient and cost effective system architecture.

McFood Delivery System McMaster University
Spring Boot, PostgreSQL, Docker *Sep. 2022 - Dec 2022*
- Built a microservice-based food delivery app with services for user management, billing, and tracking, using Spring framework and REST API.

API Management System Alzahra University
JavaScript, K6, Prometheus, Grafana *Jan. 2022 - April 2022*
- Created an API management system with centralized access, a developer portal, and continuous health monitoring using K6 and Prometheus.

Book Management Alzahra University
Spring Boot, PostgreSQL *May. 2021 - June 2021*
- Developed a Spring Boot app for a bookshop, enabling book access and author publishing with an MVC architecture and PostgreSQL database

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