Sam Liu

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Technical Skills

Languages: Java, Python, Bash, JavaScript, Scala, Ruby, SQL, R
Technologies: Kubernetes, Jenkins, Docker, Helm, Git, Ansible, Terraform, Vault, IBM Cloud, AWS, Node.js, React, Linux

Experience

Site Reliability Engineer May 2023 – July 2024
IBM *Toronto, ON*

- Configured Helm charts and cronjobs for provisioning and customization for hundreds of SaaS instances using Terraform; deployed to Kubernetes clusters on IBM Cloud using CI/CD Jenkins pipelines
- Led project to migrate SRE automation jobs to manage Kubernetes clusters on Jenkins to Ansible playbooks as part of initiative to streamline third-party tool usage
- Developed Python automation to pull health check data from observability tools to implement a live dashboard showing real time health of all hosted customers' cloud SaaS environments
- Implemented PagerDuty alerts in Slack to monitor critical issues raised in Sysdig and LogDNA observability tooling; engaged in L1 on-call rotation to resolve alerts related to platform issues with average MTTR of 54mins

DevOps Developer Jan – Dec 2022
IBM *Toronto, ON*

- Maintained the infrastructure of hundreds of IBM SaaS instances through provisioning of new environments, deployments on IBM Cloud, and conducting monthly maintenance using Kubernetes, Github and CI/CD Jenkins pipelines
- Enhanced Bash automation to use file compression and SFTP to gather logs for Support, reducing time for Support to troubleshoot customer issues by 10%; optimized internal runbooks to resolve common issues
- Automated the deletion of unused storage volumes in IBM Cloud using Bash, saving $10,000+ in monthly storage costs
- Engaged in a rotational on-call schedule to resolve automated alerts and infrastructure-related customer cases in Salesforce, including provisioning and onboarding new customers, migrating customer data from On-Prem to Cloud

Software Developer Sept – Dec 2021
Ontario Ministry of Health *Toronto, ON*

- Developed reusable and maintainable front-end components using React and Storybook sandbox environment for a new web application used by healthcare institutions to communicate financial data with the Ministry
- Used Jest and Enzyme to create mock functions and unit test cases, resulting in 90% code coverage
- Collaborated with interns on Microsoft Azure, reducing milestone completion time by 30% by implementing Git workflows

Computational Chemistry Researcher May – Aug 2019
University of Toronto - Structural Genomics Consortium *Toronto, ON*

- Developed automated scripts in the analytical chemistry software ICM Molsoft and Python to systematically filter for and analyze over 100,000 ligands with drug-like qualities within the Protein Databank
- Built a database of over 2 million datapoints to train a machine-learning model to predict potential new drug candidates

Projects

Load Testing ML Models | *Python, Bash, Openshift, Grafana, Prometheus* Feb 2024

- Led a team of developers by managing team workload to develop a CLI tool using Bash and Python that deploys ML models under user-specified resource limits to OpenShift clusters and simulates user traffic to load test the models
- Monitored resource usage through Prometheus and implemented Grafana dashboards to visualize performance of the models under different loads
- Presented solution to senior VPs, demonstrating the tool's ability to improve productivity and reduce development toil for data scientists

Interactive Brokers Trading Bot | *Java, Interactive Broker API* June 2022

- Created an options trading bot in Java that uses IBKR's Trading API to automatically execute orders after reaching a set profit/loss threshold based on trading strategies selected such as 2% gain/loss, stop loss, trailing limit after first
- Implemented a GUI with Java Swing that allows users to set the ticker to trade and set their profit/loss threshold

Education

McMaster University Hamilton, ON
Honours Bachelor of Applied Science in Computer Science *Sept. 2019 - Apr. 2023*