Muhammad Alvi

muhammadalvi24@gmail.com | +1 647-705-3925
github | linkedin

Skills

Programming Languages Java | Python | C | JavaScript
AWS Cloud Services EC2 | ECS | CloudWatch | IAM | SQS | SNS | S3 | DDB | Lambda | Kinesis | CloudFormation
Frameworks/Libraries Docker | React.js | Google Guice | Git

Experience

Amazon Web Services **Jan 2022 - Present**
Software Engineer *Toronto, ON (Remote)*

- Lowered monthly compute costs by 26% by migrating the entire EC2 fleet to AWS ECS utilizing docker containers
- Reduced wasteful computation by 17% by implementing a time-cutoff and byte-cutoff on problematic long-running tasks
- Increased monthly revenue by 34% by launching an autonomous content sampler that displayed potentially vulnerable AWS S3 buckets to customers and up-sold further classification as a result.
- Designed an allow-listing service that allows customers to provide custom regex to filter out petabytes of irrelevant data at scale
- Facilitated and automated load tests to quantify performance thresholds which provided stakeholders crucial insight to formulate Macie's pricing calculation for content sampling service before announcing at AWS re:Invent
- Identified a DynamoDB data privacy concern due to the lack of a TTL on customer metadata table, and lead a solo campaign to design, develop, and deploy an offboarding Lambda that cleans up metadata when customers offboard.
- Mitigated a customer pain point related to noisy detections by designing an opt-in API for data identifiers, that allowed customers to make configurations best suited for their needs.
- Led a campaign to maintain an excellent standard of operational hygiene by creating command-line tools to assist in ticket analysis and mitigation, eventually reducing high-severity ticket counts by 70%
- Attached a security testing approval workflow to CI/CD pipeline, maintaining a rigorous standard of authorization and authentication testing

Amazon Web Services **May 2021 - Aug 2021**
Intern - Software Engineer *Vancouver, BC*

- Lead the project to expand Macie, a machine learning AWS Service that classifies sensitive information in text-based files to also include JPEG and PNG files at scale
- Implemented parallel classification logic that increased image classification performance by approximately 800%
- Automated load test scripts that analysed and informed stakeholders of the financial viability of image classification, reducing development and operational overhead by 90%
- Utilized MMOCR, a deep learning OCR library to facilitate extraction and classification of text maintaining an F-Score requirement of 0.9
- Wrote a design document outlining the business opportunity for image classification, offering a prospective project architecture, and detailing the quantitative success criteria

Scotiabank **Sep 2019 - Dec 2020**
Intern - Software Engineer *Toronto, ON*

- Designed a web-based test suite for 3 test environments using React and Spring, leading to 21% faster testing
- Developed a simulator for testing and monitoring multiple APIs providing 78% code coverage
- Deployed a Java-based international money transfer application
- Built a dashboard to track API metrics, invoke alarms, and provide insight to business owners for future improvements

Education

Bachelor of Computing **Sep 2017 - Apr 2022**
University of Guelph *Guelph, ON*

Notable Projects

Virtual Financial Assistant - Winner Of Scotiabank Intern Hackathon **Dec 2019**
Full Stack Developer *Toronto, ON*

- Independently built an open-source chat-bot that ingests a monthly expense sheet and outputs crucial financial insights to a customer. Utilized JavaScript/React to create a materialistic and modern UI that integrated the Scotiabank theme
- Used Python/Flask and Google's NLP library to develop a feature that takes free-form sentences regarding customer financial concerns, and outputs answers using statistical analysis of customer spending habits