Muhammad Alvi

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github | linkedin

EDUCATION

Bachelor of Computing   **Sep 2017 - Apr 2022**

University of Guelph   *Guelph, ON*

SKILLS

Programming Languages   Python | Java | C++ | C | C# | JavaScript | MATLAB | Simulink

Technologies   AWS BS/EC/EC2/ELB | Azure AD | Docker | React.js | Flask | Redis | Spring | Android | ROS

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.
- Ran 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
- Lead a campaign to maintain an excellent standard of operational hygiene by creating command-line tools to assist in ticket analysis and mitigation
- Attached a security testing approval workflow to CI/CD pipeline, maintaining a rigorous standard of authorization and authentication testing
- Designed an allow-listing service that allows customers to provide custom regex to filter out irrelevant sensitive data discoveries, providing relief to Macie customers' heaviest pain points

Amazon Web Services   **May 2021 - Aug 2021**

Software Engineer   *Vancouver, BC*

- Held the sole responsibility for expanding Macie, a machine learning AWS Service that classifies sensitive information in text-based files to also include JPEG and PNG files
- 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 business opportunity, offering a prospective project architecture, and detailing the quantitative success criteria
- Provided a complete test suite to enable integration into Amazon Macie and sequentially deploy into production
- Maintained a performance requirement of classifying 1.4 million images per hour

Scotiabank   **Sep 2019 - Dec 2020**

Software Engineer   *Toronto, ON*

- Designed a web bases test suite for 3 test environments using React and Spring, leading to 21% faster testing
- Optimized API to increase time-to-first-byte by 6%
- Developed a simulator for testing and monitoring multiple APIs providing 78% code coverage"
- Automated reformatting of test data using Python scripts
- 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

NOTABLE PROJECTS

Virtual Financial Assistant - Winner Of Scotiabank Intern Hackathon   **Dec 2019**

Full Stack Developer   *Toronto, ON*

- Independently built an open-source chatbot that ingests a monthly expenses 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 Natural-Language-Processing library to develop a feature that takes free-form sentences regarding customer points of concern in their finances, and outputs answers based on a statistical analysis of customers' spending habits
- Wrote a one-paged design document afterwards to indicate potential integration of the virtual chatbot into the Android/IOS Scotiabank application