Ryan Low

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Experience

Senior Associate Software Engineer, Card Tech DevOps — Capital One, McLean, VA Mar 2024 – Present

- Delivered novel solution to deploy AWS infrastructure-as-code resource stacks with cross-dependencies in parallel or in order through Jenkins CI/CD pipeline, reducing time to production by as much as ~35% or 200 minutes per release for a business-critical Card platform; feature was made available in half the expected time. Won the CIO TechX Award Q3 2024.
- Launched internal React website with an ETL process for engineers architecting applications to find infrastructure-as-code patterns used throughout the enterprise, serving 400+ users with a reported development time savings of 1 hour per visit.
- Led production of conversion documentation to save an estimated 1,000+ developer hours across all Card Tech teams in year-long migration to new infrastructure-as-code pipeline; worked on prototype tools to migrate applications automatically.
- Created fully automated regression tests in Go for a major pipeline component that improved the resilience against breaking changes impacting users, freeing up team capacity and doubling productivity.
- Contributed capabilities to innersource projects to unblock Card Tech teams onboarding to infrastructure-as-code pipeline.

Associate Software Engineer, Data Science Feature Platform — Capital One, McLean, VA Feb 2023 – Feb 2024

- Designed and implemented a stateless multi-region Lambda API in Python to enforce platform-wide governance policies for multiple services handling 40,000+ user-created machine learning data "features" in QA and production, centralizing and streamlining future policy changes.
- Enhanced core Feature Platform Python SDK to localize compliance checks that ensure data compliance of power users.
- Conducted cross-team end-to-end integration tests to validate the feature lifecycle supported business needs and met SLAs.

Software Engineering Intern, Data Science Feature Platform — Capital One, McLean, VA Jun – Aug 2022

- Developed proof-of-concept workflow that collects and displays information about feature datasets to improve visibility of data drift for data scientists and analysts training machine learning models.
- Configured an Argo Event sensor to trigger the workflow. Utilized AWS for OpenSearch data storage and Lambda API proxy to retrieve data drift results. Created a React webpage that calls the API and produces dynamic charts with the results.

Software Engineering Intern, **Innovation Research — Suvoda**, Conshohocken, PA Jun – Aug 2021

- Researched areas for future innovation in Suvoda's clinical trial platform and proposed several machine learning approaches (e.g., time series regression, document data extraction), libraries and tools for solutions. Analyzed the quality of data in Microsoft SQL Server to determine its strengths and pitfalls for using it in the proposed machine learning approaches.
- Presented findings and recommendations to senior management of Product Development.

Education

University of Maryland, College Park 2021 – 2022
Master of Science, Computer Science GPA 4.0
Research in *Vision Transformer for Image Clustering*

University of Maryland, College Park 2018 – 2021
Bachelor of Science, Computer Science and Mathematics GPA 3.94, Cum Laude
Selected coursework: Machine Learning, Data Science, Software Engineering, Data Structures, Algorithms, OO Programming, Computer Vision, DBMS, Multivariable Calculus, Linear Algebra, Statistics

Skills

Certifications: AWS Certified Solutions Architect - Associate

Languages: Python, Go, Java, Groovy, TypeScript, JavaScript, C, C++, C#, OCaml, R, SQL, MATLAB, HTML, CSS

Libraries and tools: AWS, AWS CloudFormation and CDK, Docker, Kubernetes, Jenkins, Jupyter, PyTorch, TensorFlow, Snowflake, Splunk, React, Node, Git, GitHub, GitHub Copilot

Manager evaluation: "Able to work through ambiguous problems beyond expectation"