

# Joshua Rollo

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## WORK EXPERIENCE

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### Amazon - Software Development Engineer

2022 - 2024

Boulder, CO

- Designed secure large-scale distributed data pipelines that deliver performance metrics to over 950,000 Amazon advertising campaigns.
- Integrated a Redis cache to integrate a new API providing decoration data required to comply with the Digital Markets Act saving Amazon over \$30,000,000,000.
- Designed and implemented aggregation service for aggregating new datasets using batch processing on Spark along with AWS EMR and AWS Simple Queue Service increasing data accuracy by 30%.
- Created Python scripts to automate configuration generation used for defining EMR cluster scale, data inputs/outputs, job cadence improving efficiency by 50%.
- Collaborated with a team to identify areas of improvement by utilizing Spark profiling resulting in \$10,000 monthly AWS cost savings.
- Completed Amazon's security review process for 3 services involving creating threat models, code reviews and vulnerability assessment.
- Tested software for bugs and operating speed, fixing bugs and documenting processes to increase efficiency by 18%.

## EDUCATION

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### Baylor University - BBA, Management Information Systems

Aug 2018 - May 2022, GPA: 3.13

Waco, TX

### Georgia Institute of Technology - Master of Science, Computer Science

Spring 2025 - current

Atlanta, GA

## SKILLS

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- C++, Python, Java, C, Ruby, Git, Rails, SQL, Scala
- React, Node, Spark, AWS, Redis, Spring, Splunk, PowerShell, Cryptography, Application security, IAM
- Secure coding, Continuous integration/deployment pipeline integration(CI/CD), code reviews, system design, unit/integration testing

## PROJECTS

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### Machine Learning Based Web Application Firewall

Jan 2023 - Feb 2023

- Developed firewall to identify malicious HTTP requests.
- Trained ML model using Burp Suite log files and vulnerability scanner data containing mix of safe and malicious data.
- Automated ML training using PyCaret library for clustering request data.

### Password Manager

May 2023 - June 2023

- Secured data by hashing and salting passwords using the SHA-256 hashing algorithm.
- Utilized MySQL to ensure data is encrypted at rest adding an additional layer of security for user data.
- Developed a CRUD API allowing users to create/read/update/delete accounts.