Arjun Sundaram

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EXPERIENCE

- **Fannie Mae** — Reston, VA
  Software Engineer — *July 2024 – Present*
  - Developed and deployed a **Python-based drift detection workflow** using Regex, **Boto3, AWS Lambda, AWS Config Query, CloudWatch Logs, and EventBridge Scheduler** to monitor Cross Account Read (CAR) roles across 100+ AWS accounts, automating weekly reports that reduced manual audit effort by **60%** and shortened drift remediation time from 2 days to under 3 hours.
  - Developed core agentic features for an internal AI chatbot using **LangGraph**, designing node- and edge-based workflows to orchestrate a **hybrid RAG pipeline** with specialized agents for SQL generation, SQL execution, and document retrieval; deployed the system on **Amazon SageMaker** to automate repetitive internal support queries.
  - Developed and tested a full-stack **loan management application** using Spring Boot, JPA/Hibernate, and Angular/TypeScript, integrating Jenkins CI and achieving **80%** test coverage through **JUnit and Mockito**, improving API performance by **30%**.
  - Implemented automated chunking of large IAM YAML configurations, reducing job preparation time by **70%** for global role deployments.
  - Developed Python automation using **Boto3** to programmatically create branches and pull requests, streamlining IAM configuration merges and eliminating manual workflow overhead.
  - Operated a **GitOps workflow** with AWS CodeCommit and CodePipeline for **CloudFormation and Terraform** deployments, automating IAM role and policy updates across environments through peer-reviewed merges.
  - Monitored **AWS CodeBuild** logs and StackSets, proactively debugging build failures and increasing pipeline stability

- **Fannie Mae** — Reston, VA
  Software Engineer Intern — *Jun 2023 – Aug 2023*
  - Developed and optimized **Karate Framework** API tests, increasing testing efficiency by **80%** and enabling comprehensive loan data validation.
  - Created **Java and Pytest utilities** to accelerate JSON data extraction by **50%** and migrated legacy Spring Boot tests to **Gherkin**-based feature files for scenario-driven testing.

EDUCATION

- **Georgia Institute of Technology** — Atlanta, GA
  Master of Science in Computer Science (Artificial Intelligence Concentration) — *Aug 2025 – May 2028 (Expected)*

- **George Mason University** — Fairfax, VA
  Bachelor of Science in Computer Science — *Aug 2020 – May 2024*

PROJECTS

- **Fannie Mae Gen AI Hackathon Project**: Designed a serverless AI modernization pipeline using **AWS Bedrock**, **Lambda**, and **S3** to translate legacy **PL/SQL** into optimized Python with **Amazon Titan**, accelerating code migration and reducing manual rewrite effort.
- **Recommendation System**: Developed a machine learning movie recommender using **collaborative filtering** and similarity modeling on public datasets, improving ranking quality through evaluation of multiple distance metrics.

PROGRAMMING SKILLS

- **Languages + Technologies**: Python, Java, SQL, YAML, JavaScript/TypeScript, CloudFormation, Terraform, Regex, Boto3, AWS (Lambda, Config, CodePipeline, SageMaker), PySpark, PyTorch, Streamlit, Spring Boot, JPA/Hibernate, Angular, Jenkins, Git, Kubernetes, Mockito, JUnit, pytest