Amir Sadeghifar

amfar77@gmail.com | Miami, FL | in/amirsadeg | github.com/amirsadeghifar | amirsadeg.com

PROFILE

I'm a software engineer with a background in biomedical engineering, where I developed strong analytical and problem-solving skills. As a full-stack engineer, I've designed scalable and efficient systems that bridge complex challenges with practical outcomes. Recently, I developed *Splinter*, an open-source tool that transforms unstructured data for AI workflows.

PROFESSIONAL EXPERIENCE

Creator and Software Engineer, Splinter 06/2024 – present | Remote

Splinter (splinter-app.github.io) is an open-source data ingestion pipeline that transforms unstructured data into vectorized formats for AI workflows like retrieval-augmented generation (RAG) and similarity search.

- **Engineered a scalable** data ingestion pipeline using **AWS services (S3, Lambda, ECS, Batch, API Gateway)** to process 100+ documents simultaneously
- **Containerized ingestion scripts** and optimized AWS Fargate performance by creating lightweight Docker images and refining resource allocations, **boosting document processing efficiency by 70%**
- **Reduced operational cost** by integrating an ephemeral cloud-based architecture, ensuring cost and resources scale down to zero when not in use
- **Solved the challenge of stale data** by integrating event-driven triggers from the source, ensuring real-time updates and eliminating stale data risks in downstream applications
- **Streamlined deployment** of the pipeline by creating a CLI tool for infrastructure automation, deploying 20+ infrastructure components with a single command
- **Built observability tools** in the frontend with React, providing real-time insights into ingestion pipeline status and processing metrics
- **Deployed a RAG evaluation sandbox**, enabling experimentation with AI workflows and validating vectorized data
- Authored comprehensive technical case study, readable at splinter-app.github.io/case-study

Software Engineer, Open-Source Projects 2022 – 2024 | Remote

Developed open-source software, some highlighted projects include:

- RequestDock: A tool for receiving and debugging webhooks in real-time built with Javascript, MongoDB, PostgreSQL, Express, and React
- eCart: An e-commerce shopping cart (React, Express, Node.js, MongoDB)

Graduate Research Assistant, Driscoll Laboratory, FSU Engineering 2020 – 2022 | Tallahassee, FL

- Conducted research on molecular force transmission using tension sensors, live-cell imaging, and engineered environments, analyzing data with MATLAB to quantify images
- Developed models and simulations to understand molecular-scale force dynamics, leveraging quantitative imaging and computational analysis

Research Technician, Tethis 2017 – 2018 | Raleigh, NC

- Created new testing methods and protocols to measure the bulk density of superabsorbent polymers (SAPs)
- Collaborated with a team to enhance existing test methods for assessing the quality of SAPs produced in the lab

SKILLS

Languages and Frameworks
JavaScript, Typescript, Express, Python, SQL, React, Jest, HTML/CSS, Tailwind CSS

Cloud
AWS (CDK, SDK, EC2, ECS, Lambda, API Gateway, S3, CloudFront, DynamoDB), DigitalOcean

Other Technologies
REST APIs, Node.js, PostgreSQL, MongoDB, Git/Github, Docker, Nginx, Bash

EDUCATION

M.S., Biomedical Engineering, Florida State University 2020 – 2022 | Tallahassee, FL

B.S., Biomedical and Health Sciences Engineering, UNC Chapel Hill 2016 – 2020 | Chapel Hill, NC