Amir Sadeghifar

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PROFILE

I'm a full-stack software engineer with a background in biomedical engineering. I thrive on tackling complex challenges and enjoy turning innovative ideas into reliable, user-focused applications.

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.

- **Designed a scalable data ingestion pipeline** with **AWS (S3,Lambda, ECS, Batch, API Gateway)** to process 100+ documents concurrently.
- **Improved processing efficiency by 70%** through containerized ingestion scripts, lightweight Docker images, and optimized AWS Fargate resource allocation.
- **Cut operational costs** by implementing an ephemeral cloud architecture that scales-to-zero when idle.
- **Ensured real-time updates** and eliminated stale data risks by integrating event-driven triggers from the source.
- **Automated deployment of 20+ infrastructure components** with a CLI tool, streamlining the pipeline setup.
- **Developed React-based observability tools** to monitor pipeline status and processing metrics in real-time.
- **Built a RAG evaluation sandbox for testing 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)

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

EDUCATION

Mastery-Based Full Stack Software Development, Launch School 2022 – 2024 | Remote

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

B.S., Biomedical and Health Sciences Engineering, 2016 – 2020 | Chapel Hill, NC
University of North Carolina at Chapel Hill