Harrison Stark

harrisonstarkshs@gmail.com — LinkedIn — GitHub — Personal Website

EDUCATION

Bachelor of Science in Computer Science, Minor in Mathematics - 3.78 GPA
University of Florida, Gainesville, FL

EXPERIENCE

Qualtrics - *Software Engineer* **October 2023 - Current**

- Managed and implemented features for a low-latency, high-traffic API gateway written in **Go** for company-wide machine learning inference, supporting **billions of monthly inferences**. Created a comprehensive embedding API from scratch, integrating with Azure OpenAI, AWS Bedrock, and self-hosted AWS SageMaker models, including robust reporting, scale testing protocols, and documentation.
- Upgraded our internal AI Playground, written in **TypeScript** utilizing **React.js** and **Express.js**, with significant new features such as chat history and CI/CD. Guided an intern through project development, ensuring platform compliance with enterprise-grade standards while developing the assistants feature.
- Implemented a company-wide AWS policy enforcing billing code tagging across all roles to ensure precise cost tracking for **AWS SageMaker** resources.
- Designed and deployed dashboards for extensive cost tracking across models used for both internal and external review across the company and automating data collection processes for Monthly Engineering Review (MER).
- Led a team in developing an internal LLM-powered Slack bot to improve ticket resolution times by suggesting relevant information from various sources.

Qualtrics - *Software Engineer Intern* **June 2023 - August 2023**

- Designed and developed the Gradebook Passback feature for the Qualtrics **LTI 1.3** integration using **Node.js** allowing users to effortlessly sync grade data from Qualtrics surveys.
- Tested, reviewed, and executed the complete launch readiness checklist for the early access phase, surpassing the original scope.
- Proposed and implemented a further permissions feature with an estimated 50% increase in potential customers.

Undergraduate Research - *Independent Researcher* **January 2023 - May 2023**

- Authored a research paper exploring the use of **YOLOv8**, a state-of-the-art object detection algorithm, to improve real-time traffic signal operations at a complex intersection in Gainesville, Florida.
- Suggested an implementation plan involving cameras connected to a central processing unit to monitor traffic and pedestrian activity proposing signal timing adjustments to improve safety and efficiency up to 10%.

PROJECTS

MAISTRO **Fall 2023 - Current**

- Led a team of four in developing an AI DJ using **JavaScript** and **Python**, adhering to enterprise software engineering standards.
- Integrated the Spotify SDK to create a seamless user experience with a unique song recommendation algorithm utilizing the **ChatGPT** and Spotify APIs and a custom **NLP** model for emotion and valence extraction.

Quack-end Developer **Summer 2023**

- Led a team of three in a two-day AI Hackathon to develop an LLM-based rubber duck debugger which was very well-received and is currently being transitioned for internal use within Qualtrics.
- Assisted in creating the frontend utilizing **React.js** and led development of the backend powered by **FastAPI**.
- Implemented text-to-speech and speech-to-text using Amazon Polly and Amazon Transcribe, respectively, and used AWS S3 Buckets for rapid input and output.

Only Cats **Fall 2022**

- Developed a video processing program with a partner to remove video frames not containing cats in **Python**.
- Utilized a CNN for cat detection in videos, implementing an enhanced **EfficientNetB0** architecture.
- Accelerated unit testing by up to 99% using single images in place of videos.

SKILLS

Programming Languages: *TypeScript, JavaScript, Go, Python, SQL (MTA Industry Certification), C, C++, C#, Java, HTML, CSS, ARM Assembly, MATLAB*
Frameworks: *Node.js, React.js, Express.js, jQuery, FastAPI, Flask, TensorFlow, NumPy, Pandas, Keras, JDBC, SFML*