Harrison Stark

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EDUCATION

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

EXPERIENCE

Qualtrics - *Machine Learning 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.
- Designed and implemented an **asynchronous inference pipeline** to invoke SageMaker endpoints effectively, eliminating memory burden on the service and ensuring scalable, efficient processing of large requests.
- 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.
- Migrated team services to **Kubernetes** and implemented automated deployment pipelines using **Spinnaker**, improving scalability, reliability, and deployment efficiency.
- 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 utilizing React.js for the frontend and 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*