SAMUEL WEBSTER

samjwebster01@gmail.com | +1 (440) 867-8802 | linkedin.com/in/samjwebster/

EDUCATION

University of Notre Dame **Notre Dame, IN**
Bachelor of Science in Computer Science August 2020 - May, 2024 (Expected)
Relevant Coursework: Operating Systems, Systems Programming, Data Structures, Algorithms, Databases, Natural Language Processing, Computer Vision, Programming Paradigms, Computer Architecture, Computer Graphics, Computing Theory, Discrete Math, Linear Algebra
Academic Involvement: Teaching Assistant for Introduction to Artificial Intelligence (2023-24), chorister in the Notre Dame Chorale (2020-24)

PROFESSIONAL EXPERIENCE

Walmart Global Tech **Sunnyvale, CA**
Software Engineering II Intern, Advertising Relevance Team Summer 2023

- Designed and developed the **Java Spring Boot** back end for 'Triad', a cloud-native internal diagnostic tool for Walmart's advertisement ecosystem aimed towards identifying ad-related issues; engaged in all phases of the software development life cycle
- Orchestrated integration of diverse databases and APIs within 'Triad' to aggregate data from various sources and ensure data parity and consistency across platforms, including integration with **AzureSQL**, **Cassandra**, and **protocol buffers** to internal endpoints
- Proficiently queried 8 AzureSQL tables containing millions of rows to collect specific data related to advertising items, groups, and campaigns, simultaneously maintaining retrieval integrity through rigorous **unit testing** in the data access layer
- Managed containerized **Jenkins** deployment to **Kubernetes** clusters throughout the incremental development process, including controlling and optimizing configurations in other cloud-related technologies within the Walmart Cloud Native Platform
- Improved ad item information endpoint efficiency by 532% on average by converting from a synchronous to an asynchronous request-handling mechanism, greatly enhancing retrieval experience for endpoint requests with 1 to 10 unique ad items

Caktus AI **Remote**
Machine Learning Data Analyst Intern Winter - Spring 2023

- Developed a **Django** application to streamline the comparison of various large language models, facilitating their readiness for fine-tuning with a focus on their application within the academic domain, using **Bootstrap** to style the application interface
- Conducted in-depth qualitative analysis of 524 responses generated by 4 large language models over 193 unique prompts, revealing patterns in text generation behavior across a diverse range of more than 20 specialized niches, storing results in a **SQLite** database
- Collaborated closely with deployed GPT Curie, GPT NeoX, GPT-J, and FLAN language models, gaining valuable hands-on experience working with **LLMs**, including precise prompt engineering for enhanced model performance

PROJECTS

Generative Art - *Personal Project, instagram.com/1023ft* Summer 2022 - Present

- Generated artwork using **p5.js**, a **JavaScript** creative coding library, focusing on randomly and procedurally composed works
- Spanning 100 unique projects, integrated my passion for creativity with my coding ability, applying technologies such as **GLSL**, Perlin and Brownian noise, signed distance functions, L systems, particle physics, quadtrees, and more

Musaic - *Project for Database Concepts* Fall 2022

- Collaborated on a web application utilizing a **React** and **Flask** backend to craft mosaic-style album cover art from the user's tastes
- Maintained a **MySQL** database containing over 10,000 items acquired from the Spotify and MusicBrainz developer APIs
- Employed multithreaded **PIL** calls in work queues to power image analysis and composition systems using album covers

TinDev - *Project for Programming Paradigms* Fall 2022

- Led a three-member team in the ideation and development of 'TinDev', a **Django** application reimagining the dating app experience to streamline tech hiring and job searching
- Designed and managed a robust **SQLite** schema spanning 5 tables with 36 columns, facilitating the secure storage and retrieval of candidate and recruiter profiles, job listings, and job offer data, prioritizing integrity and performance in data architecture
- Employed **Bootstrap** and **UI/UX** best practices, ensuring creation of a web application that is both consistent and enjoyable to use

AWARDS AND RECOGNITION

- Member of Notre Dame's Silicon Valley Semester Spring 2023 cohort, a competitive CS domestic study program where students complete Notre Dame courses and participate in tech internships while based in a satellite campus in Palo Alto, CA
- Recipient of multiple competitive scholarships, including Cleveland Cavaliers and Huntington Bank, Burger King Scholars, alumni scholarships, and numerous local scholarships
- Recognition for earning a perfect ACT composite score of 36

SKILLS AND INTERESTS

Languages: Python, Java, C, C++, SQL/MySQL/AzureSQL, Bash, JavaScript, CSS, HTML, MATLAB
Technologies: Git/GitHub, Linux, Spring Boot, Kubernetes, AzureSQL, Protocol Buffers, Cassandra, JIRA, Django, Flask, p5js
Interests: visual arts, music composition, my dog Charlie, fitness, *Minecraft*, crossword puzzles, coffee