Aaron Hsu

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EDUCATION

University of Michigan - College of Literature, Science, and Arts

B.S in Computer Science, Minor in Statistics

- Relevant Coursework: Data Structures and Algorithms | Computer Organization | Database Management Systems | Statistical Computing | Intro to AI | Intro to Computer Security | Conversational AI | Statistics and AI
- Current Coursework (W25): Computer Vision, Web Systems

SKILLS

- Languages: Python, SQL, C++/C, Java, JavaScript, HTML/CSS, R
- Libraries/Frameworks: LangChain, Hugging Face, TensorFlow, Keras, PyTorch, NumPy, Matplotlib
- Tools/Platforms: Visual Studio, VS Code, Git, Microsoft Office, Azure OpenAI Service, Jupyter Notebook, Ollama

WORK EXPERIENCE

First Solar

Software Engineering Intern

- Implemented automatic, 30-second interval retry configurations for MassTransit consumers inside of RabbitMQ integrated applications, allowing the system to effectively handle transient errors and prevent data loss.
- Built an end-to-end retrieval augmented generation system using LangChain on 500+ company documents, successfully deploying a GPT-integrated web application and reducing mean time to repair (MTTR) from 5 hours to 3 hours.
- Applied prompt engineering techniques to optimize SQL queries, reducing execution and retrieval times by up to 50%, • significantly enhancing the data analytics team's productivity.
- Presented project results and solutions leveraging Generative AI tools on product deployment to C-Suite executives. Recommendations were well-received and led onboarding efforts for new hires regarding continuation of the project.

Tiimo

Web Development Intern

- May 2023 September 2023 Conducted biweekly smoke tests of Android beta application alongside the development team.
- Documented issues in Notion/Linear; developed solutions for 30+ functionality bugs and proposed various UI/UX fixes.
- Integrated code-level changes based on feedback from user reviews to enhance accessibility for neurodivergent users.

Shinsung SoundMotion

Engineering Intern

May 2022 - September 2022

Copenhagen, DK

Ann Arbor, MI

- Designed various PCBs using Sprint Layout and Cut2D, integrating models into silicon neural probes for clinical testing. Engraved designs on copper boards using a Wegstr CNC Prototyping Mill aiding in production of prototyping.
- Operated a wire and hydrogen ball bonder to aid in PCB design, reducing drill bit size to .019 mm to meet specifications.

University of Michigan - Center for Entrepreneurship & College of Engineering Ann Arbor, MI Instructional Aide September 2023 - Present

• Oversee operations for two upper-level courses including attendance, grading, and preparing lecture material.

PROJECTS

Automated Retrieval Augmented Generation (RAG) Quality Assessment - Python

- Developed a script to evaluate RAG systems across different GPT/embedding model combinations, fully automating the testing • process and eliminating the need for manual data entry.
- Conducted 10+ experiments using various LLM parameter settings (chunk size/overlap, temperature, top-k, etc.). •

AI Cooking Assistant - Python

- Developed an open-source chatbot that helps users create recipes/meal plans and provide suggestions based on user preferences.
- Integrated Hugging Face LLMs with a Python backend and Flask frontend, utilizing SQLite to personalize user experiences and • efficiently manage user data.

Custom Relational Database ("SQL") - C++

- Designed and implemented a custom relational database emulation program in C++ with hash maps, focusing on efficient data storage, retrieval, and algorithmic optimization.
- Created an interactive shell interface that allowed users to execute queries and interact with the database.

LEADERSHIP ACTIVITIES

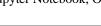
Tau Epsilon Kappa - Professional Technology Fraternity

VP of Operations

- Ann Arbor, MI January 2023 - Present
- Coordinate event logistics, organizing professional development and networking events.

Ann Arbor, MI

April 2025



Perrysburg, OH

May 2024 - September 2024