Sunny Yao

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Education

McMaster University, Hamilton **2021 - Present**
BASc, Software Engineering *3.95 GPA*

Work Experience

TS Tech Canada **May 2022 – Aug 2023**
Engineering Co-op Student *2 Consecutive Co-op Terms*

- Programmed computer vision systems(Keyence IV3/Cognex IS2800) to detect manufacturing defects
- Simulated Yaskawa collaborative robots using MotoSim software to verify defect detection cycle time
- Presented design solutions, timelines, and budgets to senior management throughout project life cycles
- Project lead for 3 separate projects with budgets totaling $81,000 USD, handling planning, testing and implementation

Data Annotation Tech **Apr 2024 – Present**
Data Annotator

- Evaluated Large Language Models code outputs for efficiency, correctness, and safety
- Engineered prompts for model AB testing to improve the efficacy of end-user interactions with AI assistants

Projects

Computer Vision Mouse(Python)

- Developed a desktop app for tracking hand gestures through a webcam to use as a hardware-free mouse peripheral
- Used Google's MediaPipe library for human hand landmark position tracking and OpenCV for processing live video feed
- Trained the recognition of hand gestures from a live webcam feed to control mouse movements and interactions
- Achieved 3rd place in Student Life Network's Remarkable Students Showcase out of over 700 entries

Conversational Large Language Model - Funhouse Bot(Python)

- Automated web scraping using Discord bots collecting over 100,000 conversational messages with context
- Cleaned and anonymized the conversational data to train 2 conversational LLMs using Google Colab GPUs
- Deployed to huggingface.co/Stratum/FunhouseBot for cloud inference and remote API requests

Procedural Island Generators (Java)

- Developed a 2D mesh generator using seeded Delaunay Triangulations and plotted procedurally generated islands
- Developed automated unit tests using JUnit and Log4J with Maven for build automation

NoteShare Website (JavaScript, CSS, HTML) [2023 DeltaHacks 9 Hackathon Submission]

- Website that offers file hosting for course notes to share class resources and give course overviews
- Used a Firebase back end for file storage and retrieval and user authentication
- Uses HTTP requests to scrape updated course information from university course offerings

Technical Skills

Languages: Python, Java, C, C++,C#, JavaScript, Verilog
Web Development(Frontend/Backend): HTML, CSS, Flask, Node.js
Web Development(Mobile Development): React Native, Android Studios
Clouds & Databases: Firebase, MongoDB, SQL
Data Science and Web Scraping: Jupyter Notebooks, Pandas, Scikit, Matplotlib, R, Matlab
Developer Tools: VS Code, Vim, SSH, Git, Linux, Unix, VMWare, Maven, Gradle

Honours and Awards

- AP Scholar Award
- McMaster Faculty of Engineering Award of Excellence
- McMaster Dean's Honour List