Sion Gang

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Technical Skills

Languages: Python, TypeScript, C, C++, Java, JavaScript, SQL, Tailwind CSS
Frameworks/Tools: Node.js, React.js, Next.js, FastAPI, AWS, Flask, Django, Git, LangChain, Selenium
Libraries: Pytorch, TensorFlow, Scikit-learn, Pandas, NumPy, SciPy, OpenCV, OpenAI

Experience

Backend Automation Engineer Jan 2025 – April 2025
Supernova MGU *Toronto, ON*

- Developed AI Agents with **Python**, **LangChain**, and **OpenAI**, and deployed them via **Docker**, **Streamlit**, and **Railway**
- Automated brand marketing by developing an AI system that researches trends and generates social media content
- Built a Research Agent to scrape posts and determine trends from **LinkedIn**, **Google News**, and etc. with **BrightData**
- **Boosted engagement by 80%** with a Content Agent that creates and schedules posts based on research insights
- Enabled faster debugging for the SaaS dev team by building an Error Monitoring Agent that tracks **Azure API** and codebase issues, categorizes errors in **Airtable**, and generates weekly reports

Software Developer Oct 2022 – June 2024
Metropolis *Toronto, ON*

- Contributed to maintaining the Official School Website with **React**, **Vite**, and **TypeScript** for 1200+ students
- Increased monthly website traffic by **35%** by developing and deploying interactive JavaScript games

Firmware Developer Sept 2024 – Dec 2024
University of Waterloo Orbital *Waterloo, ON*

- Integrated **LM75BD** temperature sensor with **I2C**, utilizing **FreeRTOS** for task management and data handling
- Designed a thermal management system, ensuring optimal temperature regulation and preventing overheating.
- Implemented an OS interrupt handler to execute over-temperature shutdowns, ensuring device safety

Projects

Wearable AI Fall Detection Device | | *C, TensorFlow, STM32, SolidWorks* Sept 2024 – Dec 2024

- Trained a **TensorFlow** neural network on fall data, **achieving 96% accuracy** through rigorous data preprocessing
- Calibrated real-time data collection from LSM9DS1 IMU with **C** and sensor fusion, **reducing false alerts by 30%**
- Developed circuit schematics and 3D-modeled the device housing using **SolidWorks** to ensure durability

ML Music Accompaniment Composer | | *Python, Jupyter, Mathplotlib, Pandas* Aug 2023 - Sept 2023

- Trained scikit-learn models to generate musical accompaniment based on user-provided melodies
- **Scraped 200+ MusicXml files** from Musescore.com to create a robust training dataset
- Optimized data preprocessing pipelines by data categorization automation, **improving model accuracy by 160%.**

Dynamic Midi Visualization Application [Demo] | *Python, PySide6, Pygame* June 2024 – Present

- Built a **full-stack** application that analyzes the notes of a song and generates dynamic visualizations
- Developed a user-friendly GUI with **PySide6**, enabling intuitive interaction and customization of visualizations
- **Optimized the visual generator to process 400 notes/min,** improving performance by **260%**

Charisma Coaching AI - doubleURizz | | *Python, Flask, DeepFace, OpenAI* Sept 2023 – Oct 2023

- Created a **OpenAI powered assistant** to provide personalized training for improving user's charisma
- Developed a web application with **Flask** that enables real-time interaction with the bot, offering actionable insights
- Integrated **DeepFace** to perform real-time facial expression analysis and sentiment detection using **OpenCV**
- Implemented **speech recognition** for seamless conversation, enhancing user engagement and accessibility

Education

University of Waterloo Waterloo, ON
Bachelor of Applied Science in Computer Engineering *Sept 2024 – Present*