Sion Gang

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Technical Skills

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

Experience

Software Engineer Jan 2025 – April 2025
Supernova *Toronto, ON*

- Built a modular brand marketing AI pipeline with **Python**, **BrightData**, **LangChain**, and **OpenAI** to analyze trends from LinkedIn and X.com, and generate posts, which reduced ops time by **5+ hrs/week** and increased CTR by **80%**
- Integrated **Celery**, **Redis**, and **FastAPI** to orchestrate and parallelize AI research agents, enabling async task distribution with retry logic and fault tolerance, and increasing research throughput by **160%**
- Built a production-grade microservice using **FastAPI** and **Python** to ingest and parse **Azure API logs**, extract stack traces, and tag recurring issues in **Airtable**, automating weekly triage and reducing debugging cycle times
- Created a lightweight internal web app with **Streamlit** and **Airtable** to generate unique policy numbers, replacing legacy tooling and making the workflow **3× faster** for non-technical staff

Software Developer Oct 2022 – June 2024
Metropolis @ WLMAC C.I. *Toronto, ON*

- Maintained the Official School Website with **React**, **Vite**, and **TypeScript**, serving 1200+ students
- Developed and deployed interactive JavaScript games, increasing monthly website traffic by **35%**

Projects

PDF Orientation Fixer | | *React.js, Next.js, TypeScript, Tailwind, OCR, Supabase* May 2025 - Present

- Built a full-stack PDF orientation correction tool using **Next.js** and **Tesseract OCR** to detect and fix rotated pages
- Integrated **Supabase** for temporary file storage and built a **cron** job with **Edge Functions** to delete files
- Designed an interactive UI with thumbnail previews and visual rotation tools to streamline page-level editing

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, Scikit, Matplotlib, 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 desktop 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*