

# 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

- Launched 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%**
- Containerized agent dashboard with **Docker** and deployed service via **CI/CD** using **Railway** for scalable automation
- Built a production-grade microservice using **FastAPI**, **Python**, and **OpenAI** 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
- Initiated an internal daily tech newsletter using **JS**, **Google Search API**, and **OpenAI** to curate industry news

### 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 old 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](#)

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 using **Selenium** to build a high-quality 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](#), [OpenCV](#)

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