

Sion Gang

647-657-2632 | s2gang@uwaterloo.ca | [Personal Website](#) | [GitHub](#) | [LinkedIn](#)

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

Process Automation Engineer

Jan 2025 – April 2025

Supernova

Toronto, ON

- Developed AI Agents with **Python**, **LangChain**, and **OpenAI**, and deployed them via **Docker**, **Streamlit**, and **Railway**
- Designed and deployed a scalable AI-driven content automation pipeline that streamlines brand marketing
- Built a Research Agent to scrape posts with **BrightData**, and determine trends from **LinkedIn**, **Google News**, etc.
- 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 @ 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%**

IoT and Connected Systems Engineer

Feb 2025 - May 2025

SmartPlus

Markham, ON

- Programmed **Savant** and **Lutron** home automation systems for integrated control of lighting, audio, and security
- Installed and wired automation hardware, gaining experience in low-voltage systems and device interfacing

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** to automatically delete files after one hour
- 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