Andrew Wu

andrewwuca@gmail.com | (647) 451-7652 | www.andrewwu.ca | andrewwu13 | andrew-wu13

Education

McMaster University *Hamilton, Ontario*
B. Eng in Software Engineering *May 2029*

- 4.0 GPA

Experience

McMaster Artificial Intelligence Society | *Software Developer* Oct 2025 – present

- Built a weighted hybrid **FFT–ViT–CNN** deepfake detection model, integrated into a **Next.js** + **FastAPI** web application, achieving **85% test accuracy**
- Productionized the ML inference pipeline with **GPU acceleration**, **Docker**, **Kubernetes**, and **Redis**, enabling low-laatency, scalable deployment

Google Developer Groups | *Open Source Developer* Sept 2025 – present

- Designed an LLM-powered browser automation agent using **LangGraph** to orchestrate multi-step reasoning and tool use for dynamic webpage interaction
- Improved agent robustness by 30% using Playwright-based DOM execution and FastAPI/WebSocket reasoning logs for observability

McMaster Exoskeleton | *Software Developer* Sept 2025 – present

- Developed a **TCN**-based time-series model with **PyTorch** for gait prediction, achieving **85% accuracy** ($\pm 5°$) in estimating joint angles from IMU sensor data
- Optimized model generalization through diverse training data, allowing adaptation to varied gait patterns.

McMaster Solar Car Project | *Full Stack Developer* Sept 2025 – present

- Deployed a **LGTM observability stack** (Loki, Grafana, Tempo, Mimir) with **OpenTelemetry** and **GitHub Actions CI/CD** to monitor production services

Projects

GenUI – Self-Evolving AI Storefront Jan 2026

- Built a real-time, adaptive storefront that dynamically reconfigures UI layouts from live user behaviour, winning **Best Beginner Hacks** and **Backboard.io Runner Up** at UofTHacks 13
- Engineered a telemetry-driven decision pipeline using **FastAPI**, **Redis**, and **MongoDB** for sub-second UI adaptation
- Designed a **LangGraph-based multi-agent orchestration layer** to infer user intent and automate A/B experimentation

Waypoint – Search & Rescue Prediction System Jan 2026

- Built an interactive predictive visualization platform with **React** to empower data-driven SAR decision-making
- Deployed geospatial simulation pipelines modeling 1,000+ parallel autonomous agents, incorporating terrain features and ISRID-informed behavioral strategies
- Implemented **multi-tile local LRU caching**, mitigating external API rate limits and improving simulation throughput by 35% versus cold starts

NewNews Sept 2025

- Developed GPT-4-powered news platform, with **k-means** clustering for topic discovery, backed by an **Express/PostgreSQL** pipeline and **Next.js** frontend
- Automated **Python** data pipeline to scrape and preprocess **500+** articles, reducing manual curation time by **~90%**

Skills

Languages: Python, SQL, Java, JavaScript, TypeScript, HTML/CSS

Technologies/Frameworks: PyTorch, HuggingFace, LangGraph, PostgreSQL, MySQL, Redis, Docker, Kubernetes, NGINX, Grafana, Prometheus, WebSockets, Git, Agile Development

Libraries: OpenCV, TeseractOCR, FastAPI, Pydantic, scikit-learn, Matplotlib, NumPy, Pandas