Nathan Au

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Education

Concordia University **Montréal, QC**
Bachelor of Engineering – Software Engineering, Co-op 2024 – 2028 (expected)
- GPA: 3.3/4.0

West Carleton Secondary School **Ottawa, ON**
OSSD, Information and Communications Technology SHSM, Co-op 2020 – 2024

Experience

Mobile Application Developer **Nov. 2024 – Apr. 2025**
Google Developer Group on Campus Concordia University Hybrid / Montréal, QC
- Earned team recognition for Best UI/UX, Best Presentation, and 2nd Place Winning Team.
- Collaborated in a 4-person team to plan, design, and develop Amicae: an app connecting students with peers, study spots, and events (*see Projects*).
- Applied Agile methodology through 2-week Scrum sprints to prioritize high-impact tasks, develop features iteratively, and incorporate user feedback.
- Pitched the app at Flutter Montréal and Concordia University to 100+ people and produced the official launch video to highlight core functionality.

Engineering Intern – Hardware & Electronics **Sep. 2023 – Feb. 2024**
Renaissance Network Reinvent Ottawa, ON
- Engaged in the full product repair cycle: testing → debugging → repair → assembly → quality control, while adhering to ESD safety protocols.
- Debugged and repaired 200+ units (e.g., circuit boards, server fans, power supplies) using electronic test instruments and component-level soldering techniques.
- Reduced material costs by salvaging 75+ microchips and various electronic components from unrepairable circuit boards.
- Tracked inventory of 1,000+ repair components using barcode-enabled data capture and Excel-driven tracking.

Projects

Reel Digest | Python, Ollama, SQLite, Telegram Bot API, yt-dlp, SpeechRecognition | Source Code **Dec. 2025**
Messaging-based productivity tool that processes short-form content and generates concise text summaries.
- Designed an audiovisual media processing pipeline: URL validation → video download (yt-dlp) → audio extraction → speech transcription (Google Speech Recognition) → LLM-based summarization (Ollama) → persistent storage (SQLite).
- Built a relational persistence layer to track users, content outputs, and junctions to enable history tracking and prevent duplicate data processing.

RPG-Mini | Python, FastAPI, Ollama, SQLite, SQLModel, pytest, Pytesseract | Source Code **Oct. 2025**
End-to-end API framework that automates document intake, classification, and data extraction for tax accounting workflows.
- Engineered a two-layer document classification algorithm with optical character recognition (PyMyPDF + Pytesseract) and keyword-based matching to identify known document types.
- Integrated LLM-powered data field extraction to transform unstructured OCR text into machine-readable JSON.

Amicae | Flutter, Dart, Firebase, Vertex AI, flutter_map, Concordia Open Data API | Source Code **Apr. 2025**
Mobile app that helps Concordia students make connections, explore study spots, and stay up to date on campus events.
- Implemented Amicae Matchup AI for personalized, data-driven match recommendations with Gemini LLM integration from Vertex AI.
- Automated the delivery of upcoming campus events and study spots in real time with the Concordia Open Data API and flutter_map geolocation services.

More projects: nathan-au.github.io

Technical Skills

Languages: Python, HTML, CSS, JavaScript, SQL, Dart, C++
Libraries & Frameworks: Flutter, Vue.js, FastAPI, SQLite, TailwindCSS, SQLModel, Pandas, Matplotlib, pytest
Tools: Git & Github, Ollama, Firebase, Supabase, Vertex AI, LaTeX, Arduino, SolidWorks, KiCad