

ALEXANDER HE MENG

Computer Science Specialist @ UofT | Full-Stack & Systems Developer

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EDUCATION

University of Toronto

Toronto, ON

Honours Bachelor of Science in Computer Science (Specialist), Math Minor Sept. 2023 – Jun. 2027 (Expected)

- **GPA:** 3.7/4.0
- **Awards:** UTM Entrance Scholarship (CS), Dean's List Scholar (2024-2025)
- **Coursework:** Theory of Computation, Data Structures & Analysis, Software Design, Systems Programming, Computer Organization, Databases, Machine Learning, Operating Systems

EXPERIENCE

Ontario Ministry of Health — [Showcase](#)

May 2025 – Present

Application Programmer (Co-op)

Toronto, ON

Python, Pandas, FuzzyWuzzy, Pytest, SAS Viya, AWS Redshift

- Engineered Python tooling to auto-map **20K+ SAS Viya pipelines**, reducing manual mapping by **90%** and accelerating province-wide migration.
- Standardized pipeline metadata (column casing, account suffixes), enabling 1000+ analysts to deliver consistent analytics supporting health decisions for **Ontario's 14.5M residents**.
- Benchmarked AWS Redshift vs. SAS Viya pipelines via SAS macro scripts, achieving **36x faster** runtimes (3h → 5m) to inform migration strategy and QA readiness.
- Developed a pytest validation suite to ensure migration stability, cutting manual QA and supporting cross-functional teams.

PROJECTS

Lumen (Hackathon Winner) — [GitHub](#) | [Live Demo](#) | [Devpost](#)

Aug 2025

React, TypeScript, Tailwind CSS, Framer Motion, GSAP, Unity, MongoDB, Gemini API

TerraHacks, Toronto

- Designed and implemented React + Framer Motion UI/UX based on user survey insights, improving journaling flow and earning praise from 11 judges/participants.
- Collaborated with a 4-person team to integrate Unity mini-games (Color Bloom, Box Breathing, Memory Lantern) into React, with 70% of testers reporting **reduced stress or improved mood**.
- Delivered a full-stack MVP in 36 hours with MongoDB Atlas + Gemini API, winning **Best Use of MongoDB Atlas** at TerraHacks 2025 for empathetic, scalable mental health design.

Emissionary — [GitHub](#) | [Devpost](#)

Jun 2025

Next.js, TypeScript, Python, Tesseract OCR, Groq AI, Supabase (PostgreSQL via Prisma)

SolutionHacks, Toronto

- Engineered a Python + Tesseract OCR parser with **92% accuracy**, automating carbon footprint tracking at scale.
- Leveraged Groq AI with Supabase (PostgreSQL via Prisma) and Kaggle emissions databases to instantly classify and enrich parsed receipt data, enabling an accurate and scalable carbon tracking pipeline.

NeuroLens — [GitHub](#) | [Devpost](#)

Mar 2025

Next.js, TypeScript, YOLO, WebSockets, Web Speech API

GenAI Genesis, Toronto

- Developed a real-time vision assistant with YOLO + Web Speech API, providing live object recognition and audio feedback for visually impaired users.
- Reached **Top-5 Finalist** out of 100+ teams at GenAI Genesis, praised for accessibility impact and responsive design.

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, JavaScript/TypeScript, SQL

Frontend & Web: React, Next.js, Tailwind, Framer Motion, GSAP

Backend & Data: FastAPI, Flask, Supabase (PostgreSQL/Prisma), MongoDB, Pandas, Pytest

Cloud & Systems: AWS (Redshift, EC2), Docker, Kubernetes, SAS Viya

Developer Tools: Git, Linux, Bash, Vercel, Clerk