

# Nathan Espejo

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## EDUCATION

### Western University

*Bachelor of Engineering Science in Software Engineering*

London, ON

Aug. 2024 – May 2028

## EXPERIENCE

### Software Developer - Pipeline Team

Sept 2025 – Present

*3D Western*

*London, ON*

- Developing an AI-augmented 3D model slicing pipeline to automate 3D printing workflows across a 24-printer farm, enabling a free and accessible printing service for students at Western University.
- Collaborating with subteams to design a Dockerized full-stack system that automates print orientation, support generation, and heuristic validation for printability using AI-driven tools and models.

### Software Engineering Intern

May 2025 – Aug 2025

*TeraGo*

*Markham, ON*

- Developed a fully automated system to manage Jira tickets based on email notifications by using a Local LLM (Ollama) for structured and secure data extraction, Python for logic, and Microsoft's Graph API for email retrieval.

### IT Intern

May 2025 – Aug 2025

*Microcomputer Consulting Inc.*

*Mississauga, ON*

- Configured and deployed client computers for multiple companies, including Windows installation, user account setup, and application/configuration changes based on company requirements.

## PROJECTS

### Auralis | *Next.js, Three.js, FastAPI, Gemini, ElevenLabs, face-api.js, Cloudflare*

Nov 2025

- Built an AI-powered virtual doctor providing face-to-face medical consultations with emotion-aware responses and post-consultation PDF reports, winning **Best AI Application Built with Cloudflare**
- Implemented emotion mismatch detection using face-api.js to identify when patients appear distressed while claiming to be fine, adapting Gemini AI responses to provide empathetic care based on detected emotional states.
- Deployed frontend to Cloudflare Pages with serverless backend, integrating Three.js for lip-synced 3D avatar rendering and ElevenLabs for natural voice interaction via TTS/STT.

### EyeCandy | *TypeScript, Snap3D API, Shopify API, Gemini API*

Sept 2025

- Reimagined e-commerce by enabling users to instantly search for and visualize clothing from Shopify on themselves in AR using Snap Spectacles, winning the **Snap: Spectacles AR Runner Up Prize** at Hack the North 2025.
- Integrated Shopify Storefront API via a lightweight FastAPI backend to fetch product data (images, variants) and generate real-time JSON responses for AR rendering.
- Implemented Google's Gemini API to create item descriptions from product images to use as a prompt for Snap3D API to achieve conversion from 2D image to 3D model.

### Lumen | *Unity3D, MongoDB Atlas, Flask, React*

August 2025

- Worked with a team to build a full-stack mental wellness app that provides personalized emotional relief through custom-tailored games, journaling, and AI-generated insights, winning **Best Use of MongoDB Atlas**.
- Created five games/experiences in Unity3D designed to deal with specific emotional states (e.g. anxiety, sadness, grief) based on research into therapeutic solutions (e.g. breathing exercises, emotional reflection).

### Careerly | *Cohere AI, Unity3D*

Feb 2024

- Built an interactive 3D career fair platform allowing students to explore potential career paths while also addressing the underrepresentation of minorities in successful roles, winning **Best Use of AI** and **Third Place Overall**.
- Implemented Cohere's AI API as our conversational career assistants and used Unity3D to develop an immersive 3D expo completed within a 24-hour hackathon.

## TECHNICAL SKILLS

**Languages:** Java, C#, Python, JavaScript, TypeScript, C++, Kotlin, SQL, HTML, CSS, XML

**Frameworks & APIs:** React, OpenAI API, Google Maps API, HERE Maps SDK, JsonBin API, REST APIs

**Developer Tools:** GitHub, Unity3D, Android Studio, Arduino IDE, Blender, OnShape, MySQL, TensorFlow

**Libraries:** AI (CNNs, LLMs), Computer Vision, API Integration, UI/UX Design Principles

**Hardware:** Arduino, ESP32, M5Stack, 3D Printing, Bluetooth Low Energy (BLE)