Ariel Liu

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Education

University of Toronto *Sep 2022 – Apr 2027*
Bachelor of Science in Computer Science *Toronto, ON*

Experience

Meta *Incoming June 2026 – Sep 2026*
Software Engineering Intern *London, UK*

Amazon *May 2025 – Aug 2025*
Software Engineering Intern *Vancouver, BC*

- Designed and architected an **orchestration layer** using **Java** to decouple core services within Amazon Payments, improve scalability, and reduce latency in the checkout flow
- Led the end-to-end delivery of an event-driven workflow using **AWS Lambda** and **Amazon SQS**, preventing overload during peak traffic and improving throughput

Shopify *Jan 2025 – Apr 2025*
Software Engineering Intern *Toronto, ON*

- Implemented **image similarity search** by adding perceptual hashes to images uploaded to Shopify and conducting Comet.ml experiments to optimize hash parameters for improved search accuracy
- Deployed **AI image generation** by training a **LoRA model** to produce Shopify brand aligned images, storing generated images in **Google Cloud**, and retrieving images via **GraphQL API** calls

BDO *May 2024 – Aug 2024*
Software Engineering Intern *Toronto, ON*

- Designed and implemented a backend automatic document indexing retry queue using **Azure Functions** and **Queue Storage**, leading to a **95% recovery rate** on failed document uploads
- Engineered and optimized ETL data pipelines using **Azure Data Factory**, **Python**, **Spark**, **Databricks**, and **MySQL**, and **reduced processing time by 6x** (from 3 hours to 30 minutes)

Community & Leadership

Hack the Woods Hackathon 🔗 *June 2022*
Founder & Organizer

- Founded a hackathon with over **$30,000** in sponsorships and **150+ attendees**

Aerial Evolution Association of Canada 🔗 *Sep 2024 – May 2025*
Website & Computer Vision Lead

- Spearheaded an open-source **computer vision** autonomous system that won the **Innovation Award**; placed **3rd** in the design report and **4th** in the flight phase at the 2025 UAS Competition
- Delivered a **98%-accurate YOLOv11** computer vision system by building robust data augmentation and training workflows and developed a real-time drone visualization web platform in **Svelte**.

Projects

Food for Thought 🔗 *(React, JavaScript, Python, Flask, REST APIs, OpenCV, Tensorflow)*
- Trained a computer vision model achieving over **95% accuracy** on 100+ food classes and integrated model with a **Flask** (Python) backend and **React** frontend

Skills

Languages: Python, Java, C, C#, C++, SQL, Postgres, HTML, CSS, JavaScript, TypeScript, Ruby, Bash
Frameworks: React, Express.js, Node.js, Flask, FastAPI, TensorFlow, PyTorch, Keras
Tools: AWS, Azure, Docker, Kubernetes, Databricks, MongoDB, JUnit, Figma, Excel, Linux, Git