Ariel (Ying Chen) Liu

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Education

University of Toronto *May 2025*
Bachelor of Computer Science, Artificial Intelligence Specialization *3.5/4.0 GPA*

Courses: Data Structures & Algorithms, Object Oriented Programming, Machine Learning, Relational Databases

Skills

Languages: Python, C, C#, C++, Java, PostgreSQL, JavaScript, TypeScript, Bash
Frameworks: React/React Native, Flask, FastAPI, TensorFlow, PyTorch, Keras, .NET, JUnit
Tools: AWS, Azure, NodeJS, Git, Databricks, MongoDB, Figma, Excel

Experience

Amazon 🔗 *May 2025 — Aug 2025*
SDE Intern (Payments team) *Vancouver, BC*

- Designed and implemented an asynchronous **orchestration layer** that starts the mandate generation process while customer authentication is still pending to **reduce latency** in the checkout flow
- Architected an event-driven workflow system involving **AWS Lambda**, **SNS**, **SQS**, and **Step Functions**

Shopify 🔗 *Jan 2025 — Apr 2025*
Engineering Intern (CoreML team) *Toronto, Ontario*

- Helped implement **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
- Implemented **AI image generation** by training a **LoRA** model to produce images, storing generated images in **Google Cloud**, and retrieving the image via **GraphQL API** calls

BDO LLP 🔗 *May 2024 — Aug 2024*
Software Engineering Intern *Toronto, Ontario*

- Designed and implemented an automatic document indexing retry queue using **Azure Functions** and **Queue Storage**, leading to a **95% recovery rate** on failed document uploads
- Developed ETL data pipelines, using **Azure Data Factory, Python, Spark, Databricks,** and **MySQL**

PulseDaily 🔗 *Jan 2024 — May 2024*
Software Engineering Intern *Remote, USA*

- Developed an **Electron.js** desktop app for data collection and a **React** web dashboard for survey insights
- Designed a **PostgreSQL** database and built **REST API** endpoints using **AWS** to handle survey data storage

Community & Leadership

Hack the Woods Hackathon 🔗 *June 2022*
Founder & Organizer *Mississauga, Ontario*

- Founded the Woodlands Hack Club and hosted a hackathon with **~150 attendees** ranging from experienced to first-time hackers, and secured sponsorships exceeding **$30,000** in value

Aerial Evolution Association of Canada 🔗 *Sep 2024 — Present*
Website & Computer Vision Lead *Toronto, Ontario*

- Won the **Innovation Award** due to our advanced computer vision autonomous system, placed **3rd** in the design report, and placed **4th** in the flight phase at the **2025 UAS Competition**
- Collected, cleaned, and augmented datasets to train **computer vision** YOLOv11 models with ~**98% accuracy**, and built a real-time drone visualization web applications in **Svelte**