

Chieh-An Chang (Andy)

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Dual Citizen of Canada and Taiwan | Canada: No Sponsorship Required | U.S.: TN-Eligible, No H-1B Sponsorship Required

TECHNICAL SKILLS

Programming Languages: Python, SQL.

AI & Machine Learning: Scikit-learn, PyTorch, Hugging Face, Fine-Tuning.

LLM & Agent Systems: RAG, LangChain, Tool Calling, Vector Databases, Multi-Agent Systems.

Backend & Model Serving: FastAPI, RESTful APIs, PostgreSQL.

MLOps, Cloud & DevOps: Docker, MLflow, Microsoft Azure, Azure DevOps (CI/CD), Git.

WORK EXPERIENCE

Investment Management Corporation of Ontario (IMCO)

Toronto, ON

Data Engineering Intern – Front Office Investment Technology, Total Portfolio & Capital Markets

May 2026 - Present

- Helped **nearly double team Agile-board throughput** in 16 weeks by contributing to 11 data pipeline projects and **independently** delivering **9 pipeline** tasks using Azure Data Factory, Databricks, Snowflake, and cross-functional technical collaboration.
- Improved pipeline reliability** and downstream data quality by resolving a **critical failure-notification defect spanning 3 teams**, debugging metadata-driven orchestration and Azure Functions integrations end to end.
- Reduced manual downstream processing across MSCI and risk-management reporting** workflows by building an **end-to-end data pipeline** with JSON-driven configuration, Azure Functions, Azure Data Factory, Databricks, and Snowflake.

University of Toronto

Toronto, ON

Teaching Assistant – Department of Computer Science and Statistical Sciences

Jan 2024 - Aug 2025

- Improved student understanding of **statistical theory** by using multiple worked examples to explain the intuition behind complex concepts and derivations, including **maximum likelihood estimation and linear regression**.
- Taught tutorials and graded exams across **4 courses: Probability and Statistics I & II, Bayesian Statistics, and Introduction to Databases**.
- Improved grading consistency across assignments and exams by developing **standardized marking schemes for SQL code, database design, and functional dependencies**.
- Graded coursework for **400+ students within 3-day turnaround windows**, achieving **100% on-time completion** through standardized, rubric-based evaluation.

SELECTED PROJECTS

Multi-Agent Travel Planning System | [View Project](#)

Aug 2026 - Sep 2026

Python, LangChain, LangGraph, Google Gemini, FastAPI, Pydantic, Google Maps API, Kiwi MCP

- Built a **Multi-Agent travel planner** covering **3 research tasks** by orchestrating **1 supervisor + 3 sub-agents** with Python, LangChain, LangGraph, Gemini, and Tool Calling.
- Enabled travel research across **3 external data sources** by integrating Kiwi MCP, Google Places API, and Google Routes API for flight, lodging, and routing retrieval.
- Served and controlled the workflow through **2 FastAPI REST endpoints + 3 middleware hooks** by adding Pydantic validation, shared state/context, async timeouts, and **1 delegation per supervisor turn**.

End-to-End RAG Document Q&A System | [View Project](#)

Jan 2026 - Feb 2026

Python, LangChain, Google Gemini, FAISS, FastAPI, Pydantic, Docker

- Built an **end-to-end RAG system** for **5 input types** using LangChain, recursive chunking, Gemini embeddings, FAISS similarity search, top-k retrieval, and context-grounded answer generation.
- Exposed RAG workflows through **5 FastAPI endpoints** with Pydantic validation and **UUID-scoped knowledge bases**, supporting incremental ingestion, configurable retrieval, and source/page metadata.
- Containerized the RAG app as **2 services with Docker Compose**, integrating a FastAPI backend and Streamlit demo UI with health checks and service dependencies for reproducible local deployment.

EDUCATION

University of Waterloo - Master of Data Science and Artificial Intelligence

Expected Graduation: Apr 2027

- GPA:** 4.00/4.00 (90.5/100); **Recognition:** Nominated for the Vector Institute Scholarship.
- Relevant Coursework:** Machine Learning, Deep Learning, Data-Intensive Distributed Computing, Data Engineering.

University of Toronto - Honours Bachelor of Science, Double Major in Computer Science and Statistics, High Distinction

Graduated: Jun 2025

- GPA:** 3.81/4.00 (Upper-Year Average: 89.8/100); **Awards:** Dean's List (2021, 2022, 2024, 2025).
- Relevant Coursework:** Software Engineering, Data Structures and Analysis, Systems Programming, Databases, Information Security.

COMPETITIONS

Statistical Modelling (Supervised Learning) | UofT (Kaggle) | Ranked 6th out of 59 teams

Nov 2024 - Dec 2024