

Axel Tang

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 github.com/AxelTWC

Education

University of Toronto <i>Master of Engineering (Emphasis on Data Analytics and Machine Learning)</i> <ul style="list-style-type: none">Relevant Coursework: Applied Deep Learning, Intro to Machine Learning, Intro to Healthcare Robotics	2025 - Expected 2027 Toronto, Canada
University of Ottawa <i>Honours Bachelor of Science in Computer Science (GPA: 3.51 / 4.00)</i> <ul style="list-style-type: none">Honours and Awards: Dean's Honour List, International Merit Scholarship	2020-2024 Ottawa, Canada
Credentials <i>Post Grad Certifications</i> <ul style="list-style-type: none">Harvard Online: Data Science for BusinessDeeplearning.AI: Machine Learning Specialist	2025 Remote

Relevant Work Experience

Hong Kong General Chamber Of Commerce <i>Information Technology Intern – Software Development & Computer Vision</i> <ul style="list-style-type: none">Implemented a motion detection and face recognition system using Python OpenCV contour detection, enabling security camera monitoring.Used fuzzywuzzy algorithm to compare data from SQL database to extract abbreviated names.Re-designed intranet webpages with ASP.net & CSS and data entry into system.	July 2024 – Aug 2024 Hong Kong
InteractHealthPro <i>Software Developer Intern</i> <ul style="list-style-type: none">Migrated from Keap to Groove.cm by rebuilding automations, transferring customer data, and reconfiguring funnels, reducing manual workload and improving team operational flow.	Mar 2024 – June 2024 Canada

Projects

LocalML-Commuter <i>PyTorch, scikit-learn, Typer, model evaluation</i> <ul style="list-style-type: none">Designed a lightweight CLI that ingests real-world commute signals (weather, transit ETA, ride-hailing pricing) and performs feature extraction for supervised machine learning.Built and trained a PyTorch neural network to model Uber vs TTC decisions, calibrating prediction confidence to achieve 80+% reliability on held-out validation data.Designed a data logging and labeling pipeline combining personal commute outcomes with external API data, enabling continuous dataset growth and iterative model retraining.	Jan 2026
Retrieval-Augmented Generation (RAG) Adaptive Chunking <i>Python, PyTorch, FAISS</i> <ul style="list-style-type: none">Built a baseline RAG pipeline including text preprocessing, fixed-size chunking, dense embedding generation, an in-memory vector store, and a retriever.Developed and evaluated adaptive chunking strategies via (TriviaQA, NaturalQuestions).<ul style="list-style-type: none">* <i>TriviaQA (Qwen-3-8B)</i> – 59.2% → 66.9% (Top 3 RAG)* <i>NaturalQuestions (Llama-3.1-8B)</i> – 32.4% → 43.9% (Top 3 RAG)	Sept 2025
Umple <i>Java, Internal Language: UML</i> <ul style="list-style-type: none">Actively contributed to an open source project (model-oriented programming tool) with 1.78+ million visitors.Tasked with implementing and resolving Java and Umple issues while ensuring effective version control and CI/CD pipeline.Submitted multiple Pull Requests; such as extraneous bracket detection with Regex and Batch Scripts for Windows Development	https://umple.org

Technical Skills

Frameworks: PyTorch, TensorFlow, Hugging Face, Scikit-learn
Tools: FAISS, Docker, Jupyter, Google Colab, Git
Concepts: Deep Learning, Neural Network, NLP, RAG, Information Retrieval, Adaptive Chunking
Languages: Languages: Python, Java, C#, JavaScript (React, Node.js), Kotlin, Go