ANTHONY HO

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SUMMARY

Computer Science and Business student at the University of Waterloo (Class of 2026) with professional experience in Software Engineering, Data Science / ML Research, and Data Engineering. Strong computer science fundamentals with proven record of delivering impactful results. Driven, highly collaborative within teams, and looking to specialize in technical roles.

EDUCATION

University of Waterloo, Computer Science and Business Admin. (Double Degree) | GPA: 3.8 / 4.0 *Sep 2021 – Aug 2026*

Relevant Courses: Operating Systems, Machine Learning, AI, Computer Networks, Compilers, OOP, Data Structures

Awards: 2022 NSERC Undergraduate Student Research Award, 2024 President's Research Award

SKILLS

Programming: Python, Go, C/C++, JavaScript, SQL, R

Web: React, Node.js

Data: Pandas, NumPy, Matplotlib, PyTorch, OpenCV, PySpark

Cloud: AWS, Docker, MongoDB

Other: Computer networking (DHCP, TCP/IP, ...)**,** Machine Learning (Causal inference, computer vision), RAG

EXPERIENCE

TextNow *(ongoing)*

Backend Software Engineer, Trust and Safety *Jan 2025 – Apr 2025*

- Preventing fraudulent activity by leveraging Go and PHP for concurrent, high-performance communication with gRPC.
- Productionized high traffic endpoints (2k/s) using cron jobs and Kubernetes, enabling seamless rollouts with 0 downtime.

Sun Life Financial

Data Engineer, Client Experience Office *Jan 2024 – Apr 2024*

- Designed a compiler to finalize conversion of departmental SAS codebase to a DevOps pipeline built on AWS (Glue) and PySpark using **AST tree traversal** and automated approaches, **saving 100+ hours** of teamwide conversion time.
- Undertook cross-functional workloads to implement Sun Life's future cloud environment, resulting in a **company feature**.

Huawei

Machine Learning Researcher, Data Driven Networks *Jan 2023 – Dec 2023*

- Used machine learning to optimize parameter tuning for the TCP BBR congestion control algorithm, contributing to the team's final solution and **paper acceptance into USENIX ATC '24 (< 15% acceptance rate).**
- Researched papers and leveraged a variety of ML paradigms such as Causal Forests, HDBScan and XGBoost.
- Generated and analyzed simulated computer network datasets using **paper implementations** of causal inference, clustering, and feature selection (SHAP, CovSel, PS matching), resulting in error predictions of **RMSE = 4%**.

University of Waterloo

Full-stack Software Engineer *May 2022 – Aug 2023*

- Developed an **IoT sensor network** for Canadian Pacific Railway capable of dynamic scaling, in-runtime configuration, and **OTA updates** using Raspberry Pis, threading, cloud technologies (AWS IoT, EC2), and MQTT protocol.

Non-Destructive Testing (NDT) Researcher *Sept 2024 – Dec 2024*

- Using ultrasound and signal processing to detect faults in modern architecture.

Computer Vision Researcher *Jul 2019 – Aug 2019*

- Analyzed research papers, augmented training data, and implemented stereo vision models using Python and OpenCV

PROJECTS

Machine Learning Projects

- Learned the math and implemented classical ML algorithms from scratch, including MLPs, Random Forests, hard-margin SVMs, K-Means, logistic regression, EM, and naïve Bayes. Resulted in comparable results to sci-kit learn (and lots of fun!).
- Explored deep learning using PyTorch to implement LSTM and CNN models for time-series and image recognition tasks.
- Implemented a q-learning reinforcement learning algorithm from scratch to solve grid puzzles.

Personal Projects

- Projects developed from passion and curiosity. Includes a blog, a poop app, some hackathon wins, & more!
- Highlight: AntRAG – a self-made Anthony chat client soon available for trusted blog users.