Anthony Ho

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TECHNICAL SKILLS

Languages: Python, R, Bash/Linux, C/C++, JavaScript, HTML/CSS, LaTeX
Frameworks: Pandas, Numpy, Matplotlib, PySpark, OpenCV, SQL/SQLIte, Redis, AWS, Socket Programming, React, Node.js
Other Skills:
- Computer networking skills: DHCP, bridging, packet forwarding, TCP/IP
- Research background: Causal inference, stereo vision

EXPERIENCE

Data Engineer   Jan. 2024 - Apr. 2024
Sun Life Financial   *Toronto, ON*
- Played a key role in migrating the CXO department's codebase from SAS to a DevOps pipeline built on AWS Glue by processing **>50k** lines of Python-converted SAS.
- Designed and optimized queries to streamline ETL operations while working on terabytes of user data using AWS-hosted PySpark and SQL in an agile environment.
- Coordinated workloads across teams and collaborated with Sunlife Engineers to develop the framework for Sunlife's future cloud environment, resulting in a feature within the company newsletter.

Data Driven Network Researcher   Jan. 2023 - Dec. 2023
Huawei   *Markham, ON*
- Generated, preprocessed, and analyzed simulated networking datasets using causal inferencing techniques, resulting in error predictions as low as **RMSE = 4%**.
- Studied papers and implemented novel ML models that became integral to the Networking team's final solution and paper acceptance into **USENIX ATC '24.**
- Well-documented the project's background and codebase, resulting in flexible and reusable code. Commended by supervisor for good communication and presentation skills.

IoT Research Assistant   May 2022 - Aug. 2023
University of Waterloo   *Waterloo, ON*
- Created a tunnel monitoring IoT system for Canadian Pacific Railway.
- Developed a sensor network capable of analytics, remote update, and in-runtime configuration using Raspberry Pis, cloud technologies, and MQTT protocol.
- Designed system for scaling and rapid installation by using a customized IP assignment (DHCP) protocol to seamlessly integrate new sensor stations.
- Implemented a dashboard with React + Express for monitoring and data visualization.

Stereo / Computer Vision Research Assistant   Jul. 2019 - Aug. 2019
University of Waterloo   *Waterloo, ON*
- Researched, implemented stereo vision models after analyzing multiple research papers using OpenCV, resulting in a passable "ground truth" output.
- Augmented training data using OpenCV and improved the efficacy of a colleague's CNN stereo model.

PROJECTS

Chess | *C++*   Nov. 2022
- Developed Chess focusing on OOP principles, resulting in a project grade of >100%.
- Considered MVC architecture, low coupling / high cohesion, and various design patterns to create readable, reusable, and memory leak-free code.

Staples Studio Startups | *React, Express, MongoDB*   Aug. 2022
- Won the Hack the 6ix Staples Studio Challenge (400+ participants) by building a platform using MongoDB, Express, and React that connects startups' products to consumers.

Balloon Deflation Tracking & Modelling | *Python*   Jan. 2021
- Developed an algorithm that models a balloon's deflation using OpenCV and math, resulting in the find of an accurate regression for balloon deflations. (R-squared = 0.94)

EDUCATION

University of Waterloo & Wilfrid Laurier University
Candidate for Honours Computer Science and Bachelors of Business Administration (Double Degree)   *Sept. 2021 - Aug 2026*
- **Awards**:
  2021 University of Waterloo President's Scholarship of Distinction ($2000)
  2022 NSERC Undergraduate Student Research Award ($6000)
- **Interests**: Blue Jays will win the ~~2023~~ ~~2024~~ 2025 World Series