

TRISTAN LAM

✉ t38lam@uwaterloo.ca · in/tristanlam · tlam67 · tristanlam.me

TECHNICAL SKILLS

- **Languages:** Python, C++, Java, C, Javascript, Typescript, SQL, HTML/CSS, Bash
- **Technologies:** AWS, GCP, Docker, Kafka, Apache Beam, PostgreSQL, MySQL, GraphQL, MongoDB, InfluxDB, Maven, Jackson, React, Redux, Node, Express, Postman, Grafana, Selenium

EDUCATION

University of Waterloo GPA 3.9/4.0 | 3x Term Dean's Honours List | Exchange @ HKU
Candidate for Bachelor of Computer Science with Honours (AI Specialization), Co-op

Waterloo, ON
Sept 2020 - Present

RELEVANT EXPERIENCE

Plenty of Fish

Machine Learning Engineer Intern | ML Recommendations

Vancouver, BC

May 2023 - Aug 2023

- Increased profile votes by 11% by tuning, evaluating, and productionalizing image quality enhancement and image ranking models across PoF and partner brands (Tinder, Match.com, ...)
- Developed Java Beam pipeline to run various ML models on consumption of Kafka events and store the resulting embeddings in feature store and update user profile with results (e.g. image order)
- Accelerated image retrieval operations by 6x by identifying and fixing excessive cache clearing by converting machine learning pipelines to consume images from S3 instead of Akamai
- Enabled data scientists and analytics teams to perform experiments on new data by creating a data ingestion pipeline, processing 25,000 events/second, to save Kafka events to BigQuery for analytics

Arcturus Networks

Software Engineering Intern | Embedded Computer Vision

Toronto, ON

Sept 2022 - Dec 2022

- Increased processing speed by 4x by implementing batching and multi-threading for read/write operations of vision detection data, resulting in smoother video feeds and analytics dashboards
- Built RESTful backend for object detection and tracking application built for Jetson Xavier NX via asynchronous network of zmq sockets, InfluxDB, and PostgreSQL
- Improved SQL query performance by 10x via indexing, batching, caching, and query optimization

WSIB Innovation Lab

Software Engineering Intern | Machine Learning R&D

Waterloo, ON

Jan 2022 - Apr 2022

- Developed an NLP model with spaCy to identify medical terms in insurance claim documents with 95%+ accuracy
- Computed medical term relevancy to document subject using cosine similarity on snomed2vec embeddings
- Accelerated insurance claim processing time by 30% by developing a web app for secure storage of health documents and applying the NLP model via AWS Lambda for auto-redaction

Hop In

Software Engineering Intern | Core Engineering

Toronto, ON

May 2020 - Aug 2020

- Developed interactive map and backend to display real time route info and generate routes for shuttles based on live traffic conditions and required pick-up locations
- Implemented QR verification for both driver and rider mobile apps for identity/payment verification

PROJECTS

Magic Card Detection

Python, OpenCV, YoloV5, PyTorch

- Developed a multi-threaded card detection and price matching application via video feed with transfer learning YoloV5 model

Wave Chat

Javascript, Node, Express, MongoDB, Heroku, Bootstrap

- Live video chat website for university students including university credential verification, homebrewed user matching algorithm, and password salt and hashing
- Winner at DefHacks, conducted beta test and launched shortly after, peaking at 1500 users