


# AMY HU

 University of Waterloo 3B Computer Engineering

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## EDUCATION

University of Waterloo, Computer Engineering, Candidate of BASc

SEP 2021 - APR 2026

Relevant Courses : Computer Architecture, Computer Networks, Compilers, Real-Time Operating Systems, etc

## SKILLS

Softwares	Golang, C/C++, Java, C#, CMake, GDB, Linux, Python, HTML, CSS, JavaScript, SQL, MATLAB
Frameworks	AWS, React, ASP.NET, Flask, FastAPI, Unity, PyTorch, TensorFlow, Swing, Bootstrap, Kafka
Databases	MySQL, PostgreSQL, SQLite, Redis

## EXPERIENCE Find more projects at : [trotyl.xyz/projects](https://trotyl.xyz/projects)

Software Developer (Core Product Team), Remote, Adentro Inc

MAY 2024 - AUG 2024

- > Developed a **URL shortener** service in **Golang**, returning MD5-encoded hashes with a collision probability of less than 1 in 10,000.
- > Created a **hook receiver** server in **Golang** to handle HTTP requests from third-party webhooks, responsible for processing events such as email opens, clicks, and status updates.
- > Implemented a validator for received messages, converting these calls into a standardized Google **Protobuf** format and writing them to **Apache Kafka**.
- > Developed a **gRPC server** for managing account configurations, using in-memory **caching** for efficient data validation and retrieval.
- > Utilized **Terraform** and **WAF** files to configure and deploy servers on **AWS**.

Software Developer (Central Maxon App Team), Waterloo, Maxon Computer

SEP 2023 - DEC 2023

- > Developed a feature in **C++** to capture service versions during user installation and update events.
- > Enhanced data analytics accuracy in the **C++** codebase by implementing configurable methods (via macros, configuration files, and environmental variables) to determine when data should be captured.
- > Created and executed **Google unit tests** for user identity management events.
- > Addressed **GDPR** compliance concerns by fixing various data-sensitive bugs in analytic system.

Front-End Developer, North York, Sparklease Inc.

JAN 2023 - APR 2023

- > Developed the vehicle detail page, leveraging **RESTful API**, **ASP.NET MVC**, and user information upload features with **JavaScript**.
- > Implemented a dynamic calculator, applying lease/finance monthly payment algorithms with various **canvas** widgets.
- > Improved website performance by over **60%** through optimizations such as Lazy Load, code streamlining, text compression, and utilizing crawlable links for better SEO.

Web Developer, Toronto, eButterfly

MAY 2022 - AUG 2022

- > Developed the front-end for eButterfly's website and admin panel using **React** and server-side with **Node.js**, featuring user-submitted butterfly encounters and data filters.
- > Led a team of 5 in an statistical display project, providing backend and environment setup assistance. Self-taught **Flask** and **FastAPI** during this project.

## STUDENT DESIGN TEAM

Autonomy Team Lead, Waterloo Aerial Robotics Group, Waterloo

JAN 2022 - MAY 2024

- > Represented the team at the **2024 National Annual UAS Student Competition**, securing **1st place** in both phase 1 design paper and phase 2 flight assessment, as well as receiving the **Judge's Award**.
- > Led a team of over 20 members in delivering software for UAVs to derive information from images and videos, coordinate inputs, and develop the ground-side GUI and drone telemetry system.
- > Prototyped the drone's autonomous air-side system, featuring **multiprocessing**, geolocation, and cluster estimation modules to accurately locate landing pads.
- > Collected and trained a dataset of over 12,000 UAV landing pad images to develop a **YOLOv8**-based object detection model, achieving over **90% mAP**, and implemented a **deep neural network** in **TensorFlow** to identify 10 different object classes.