# Andy Yun

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## Skills

**Programming Languages:** C, C++, JavaScript, Python, ARMv7 Assembly, VHDL
**Platform/Devices:** AWS, GCP, Linux, UNIX, MQTT, PLC, GPGPU, CUDA, Jetson Nano, JSON, SVN, CARLA, ARMv7
**Framework/Library:** Node.js, Express.js, WebSocket, PySide2, TensorFlow, PyTorch, PyQt, OpenCV, Boost Python

## Experience

**6G R&D Co-op**
**Huawei -** Kanata, Canada — September 2022 – December 2022

- Developed **API** for internal use, called from **Python** and communicated with Carla Server using **C++** and **Boost**
- Created the **GUI** using **PyQt** for the 6G R&D department to monitor and control the **Unreal Engine** simulation
- Designed and created a new **ray tracing** technology that can detect the objects which reflect the light in the **CARLA** simulation better to interpret the real world within the 6G simulation using Unreal Engine 4
- Experienced **large codebases** and how to digest the associated complex logics

**Software Developer Co-op**
**Stackpole International -** Ancaster, Canada — January 2022 – April 2022

- Reduced the communication overhead between PLC and Host computer by 30% using a caching mechanism
- Built GUI, Machine Learning and telemetry software to reduce human error involved in the production
- Utilized **Python**, **PySide2, OpenCV, TensorFlow**, and **PyTorch** for Omron PLC and **GPU** servers
- Applied knowledge related to the memory address, binary numbers, and other mathematical knowledge while programming for **PLC** controllers through the ethernet connection to ensure the security of communication
- Experienced NVDIA'**s Jetson Nano** to utilize the ML pipelines, UNIX kernel, and ARM instruction sets

**Full Stack Developer**
**TEMS Academy -** Waterloo, Canada — October 2020 – June 2021

- Designed the architecture of a **Web Platform** where tutors and students can communicate and evaluate on
- Reduced communication overhead by 50%, allowing tutors to focus on lessons rather than filing each student
- Maintained similar or higher level of data confidentiality through user authentication and built-in encryption to control the accessibility of each data compared to traditional filing system using Google G-Suite
- Constructed a full-stack application that is mobile-friendly, making it suitable for more diverse lessons and ensuring connectivity with the management system of the company

## Projects

**Find My Pill Platform**
Waterloo, Canada — October 2022 – Ongoing

- Developed and designed RESTful API using Python and Flask to communicate with the Flutter frontend
- Applied **3NF normalization** of database to enhance the response time when handling large data by **23.7%**
- Designed the platform architecture to utilize **microservices** to maximize the reusability of code and stability
- Constructed the **custom recommendation algorithm** to be used when the user entered the portion of the text

## Education

**University of Waterloo**
Candidate for Bachelor of Applied Science in Computer Engineering — September 2021 – June 2026

- Learned VHDL in ECE 124 Digital Circuits
- Learned ARMv7 in ECE 222 Digital Computers
- Learned Algorithmic thinking and assessing efficiency of the logic in ECE 250 Algorithm and Data Structures