

# Cheyenne Goh, EIT

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## EDUCATION

### Master of Science in Artificial Intelligence and Machine Learning

University of Limerick – Limerick, Ireland

Aug 2025

QCA: 4.00/4.00

- **Modules:** Data Engineering and Machine Learning, Evolutionary Computation and Humanoid Robotics, Text Analytics and Natural Language Processing, Artificial Intelligence for Games, Machine Vision, Deep Reinforcement Learning, AI Ecosystems, Probabilistic and Explainable AI, Research Methods
- **Awards:** University of Limerick Postgraduate Scholarship for International Students

### Bachelor of Science With Distinction in Software Engineering

Schulich School of Engineering, University of Calgary – Calgary, AB

May 2024

GPA: 3.50/4.00

- **Minor:** Mechatronics
- **Coursework:** Software Requirements/Architecture/Development/Testing/Performance Evaluation, Database Management Systems, Data Structures and Algorithms, Computer Graphics, Machine Learning, Operating Systems, Computer Networks, Embedded System Interfacing, Digital/Electrical Circuits, Signals and Transforms, Control Systems, Mechatronics, Robotics, Mechanics (Statics/Dynamics), Project Management, Professional Technical Communication
- **Awards:** 2021/2022 Schulich School of Engineering Dean's List, Schulich School of Engineering Dean's Entrance Scholarship, University of Calgary Entrance Scholarship, Alexander Rutherford Scholarship

### Certifications

- Machine Learning Foundations – Amazon Web Services (AWS Academy, 2025)
- Cloud Foundations – Amazon Web Services (AWS Academy, 2025)
- Machine Learning – DeepLearning.AI, Stanford University (Coursera, 2023)
- C# Programming for Unity Game Development – University of Colorado System (Coursera, 2023)

## EXPERIENCE

### Research Intern

University of Limerick – Limerick, Ireland

Nov 2024 – Present

- Joined the Biocomputing and Developmental Systems (BDS) Group in Lero to research the application of Grammatical Evolution in evolving machine learning models as GPU programs, with a focus on the evolution of NVIDIA CUDA kernels in C

### GPU Compute Software Intern

Advanced Micro Devices, Inc. (AMD) – Calgary, AB

May 2022 – Aug 2023

- Contributed features and bug fixes to rocFFT/hipFFT, an open-source C++ math library for computing Fast Fourier Transforms in the ROCm GPU software stack for AI, Machine Learning, and High-Performance Computing
- Rewrote method for testing inverse Fourier transforms in the rocFFT GoogleTest test suite to yield a 10% improvement in the overall test run time by adding asynchronous optimizations and reducing external library calls
- Prototyped compute kernels with Python and C++ to improve performance of real-complex transforms in rocFFT and presented a display on the topic as a finalist for the 2023 AMD Canada Innovation Showcase in Markham, ON
- Incorporated utility in the rocFFT performance testing Python script for measuring raw bandwidth efficiency and processing the data to determine median duration and efficiency
- Validated rocFFT/hipFFT library on AMD RDNA3 hardware, ensuring adequate functionality and performance on both Linux and Windows operating systems prior to global product launch

### Design Engineering Summer Intern

Flexcim Manufacturing Services Inc. – Edmonton, AB

May 2021 – Sept 2021

- Developed a Python program to retrieve Human-Machine Interface inputs and Programmable Logic Controller sensor data from plastic injection molding machines and display data from MySQL on the HMIs via Modbus TCP
- Integrated functionality in the program to continually collect hundreds of data entries daily for every injection moulding cycle in a MySQL database for analysis to assist in optimizing production
- Performed a complete software rewrite of a dated DOS operations tracking program using the Python Tkinter GUI toolkit and a MySQL database to improve usability, maintainability, and portability

## SKILLS

- **Languages:** Python, C/C++, C#, Java, JavaScript, MATLAB/Simulink, MIPS Assembly, PLC Ladder Logic, HTML/CSS, SQL, UML, LaTeX
- **Technologies:** TensorFlow, PyTorch, AWS, CUDA, HIP, Vulkan, GLSL, CMake, React, Unity, Processing, MySQL, Git, Linux, PIC Microcontroller, Arduino, QUARC, Quartus, ModelSim, SolidWorks
- **Concepts:** Machine Learning, GPU Programming, Concurrent Programming, Graphics Programming, Object-Oriented Programming, Machine Vision, Control Systems, Robotics, Evolutionary Computation, Reinforcement Learning

## PROJECTS

### Capstone Design Project – Sponsored by Garmin

Aug 2023 – Apr 2024

- Teamed up with three fellow students to design a system that recognizes four distinct hand gestures from sensor data from a Garmin Venu 2 Plus smartwatch and performs associated actions on an Android device
- Led the development of a machine learning model by building a Convolutional Neural Network with PyTorch, training the model with sensor data collected by team members, and integrating the model in the Android application using TensorFlow Lite, resulting in a model with over 99% accuracy
- Awarded second place out of 25 final year projects in the Software Engineering category at the University of Calgary's 2024 Engineering Design Fair

## INVOLVEMENT

### Olympic Short Track Speed Skating Athlete

Oct 2012 – Feb 2021

- Represented Singapore in the 1500-m short track speed skating event at the PyeongChang 2018 Olympic Winter Games
- Trained 30-40 hours per week for three years with Olympic Oval Elite Athlete Pathway Programme as a full-time student