

Cheyenne Goh

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SUMMARY

Postgraduate student at the University of Limerick studying artificial intelligence and machine learning. Recent software engineering graduate from the University of Calgary with 20 months of industry internship experience in software development using C++ and Python.

EXPERIENCE

Research Intern

Nov 2024 – Present

University of Limerick – Limerick, Ireland

- 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

May 2022 – Aug 2023

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

- Contributed features and bug fixes to rocFFT/hipFFT, an open-source C++ maths library for computing Fast Fourier Transforms in the ROCm GPU software stack for AI, Machine Learning, and High-Performance Computing
- Reworked 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 optimisations and reducing external library calls
- Prototyped compute kernels with Python and C++ to improve the 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, Canada
- 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 before the global product launch

Design Engineering Summer Intern

May 2021 – Sept 2021

Flexcim Manufacturing Services Inc. – Edmonton, Canada

- Developed a Python program to retrieve Human-Machine Interface inputs and Programmable Logic Controller sensor data from plastic injection moulding machines and display data from MySQL on the HMI 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 optimising 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

EDUCATION

Master of Science in Artificial Intelligence and Machine Learning

Aug 2025

University of Limerick – Limerick, Ireland

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

May 2024

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

GPA: 3.50/4.00

- **Minor:** Mechatronics
- **Modules:** 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

Alberta High School Diploma

Jun 2017

Leduc Composite High School – Leduc, Canada

Mark: 93.8%

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)

PROJECTS

Capstone Design Project – Sponsored by Garmin Canada

Aug 2023 – Apr 2024

- Teamed up with three fellow students to design a system that recognises 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

Hack Your Learning Hackathon

Mar 2021

- Collaborated remotely in a team of four to build a user-friendly Java application that facilitates supply chain management of furniture inventory in a MySQL database
- Presented a brief video demonstration to a panel of five judges and made appropriate UX revisions based on feedback provided by industry experts from Canada, Greece, and the United States

EXTRACURRICULAR

Speed Skating Coach

Sept 2023 – Mar 2024

- Instructed beginner and introductory speed skaters aged 10 and under on short and long track with Calgary Speed Skating Association

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 the Olympic Oval Elite Athlete Pathway Programme as a full-time student