

Cheyenne Goh

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EDUCATION

Bachelor of Science in Software Engineering

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

Apr 2024

GPA: 3.47/4.0

- **Minor:** Mechatronics Engineering
- **Coursework:** Software Requirements/Architecture/Development/Testing, 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, 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, Alexander Rutherford Scholarship, University of Calgary Entrance Scholarship

Certifications

- Machine Learning – *DeepLearning.AI, Stanford University (Coursera, 2023)*
- C# Programming for Unity Game Development – *University of Colorado System (Coursera, 2023)*

WORK EXPERIENCE

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++ 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 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, 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, Control Systems

PROJECTS

Capstone Design Project – Sponsored by Garmin

Aug 2023 – Apr 2024

- Obtained approval to collaborate with Garmin to develop an open-source library containing APIs that utilize machine learning to enable gesture-based control using Garmin smartwatches with three fellow students for the 2024 Engineering Design Fair at the University of Calgary

Hack Your Learning Hackathon

Mar 2021

- Built a user-friendly application that facilitates supply chain management of furniture inventory in a MySQL database
- Collaborated remotely in a team of four using Java to receive requests, compute the most cost-effective order fulfilment, modify the database, and produce an order form
- 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.

INVOLVEMENT

Olympic Short Track Speed Skater

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