MARCUS SEUNG CHUONG

CONTACT

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EDUCATION

BSc. Computer Science, Physics, Mathematics
University of Toronto
GPA: 4.0/4.0

SKILLS

Typescript
Python
Javascript
C/C++
SQL
HTML/CSS
Excel

LANGUAGES

English
Native Proficiency

Korean
Working Proficiency

INTERESTS

Cybersecurity
Badminton
Music
Blogging
Travel

A determined and motivated Computer Science, Mathematics, and Physics student at the University of Toronto. Equipped with a strong foundation in numerical simulations, data analysis, and software development. Proficient in Python, Typescript and C++, and passionate in solving real-world issues in a team environment .

WORK EXPERIENCE

Technical Lead
March 2025 - Present

Hack404

- Led a team to design a frontend application using Next.js for a future-themed **hackathon**, attracting over **500+** applicants in **one month**.
- Architected a back-end database using **PostgreSQL,** and user authentication with **OAuth** to create a secure and responsive **web application**.

Machine Learning Researcher
Nov 2024 - April 2025

University Of Toronto Machine Learning Team

- Trained custom models using **1 M+** images using **ImageNet**, and **COCO** to improve AI-driven colorization accuracy by **30 percent**.
- Developed **perceptual loss** and **adversarial loss** to improve colorization quality on over **200,000** objects.

Lead Fullstack Developer
Feb 2022 - Preesent

Power Unit Youth Organization

- Developed a frontend application using **React.js** for a food festival, attracting **100,000+** attendees and raising **$143,000+** for charity.
- Architected a backend database with **MongoDB**, enabling **200+** vendors to register for the event, achieving **$200,000+** in profits.

PROJECTS

N - Body Simulation

- Designed and implemented the **Barnes-Hut** recursive algorithm in **C++** with **OpenGL** to render over **10,000 bodies** of varying mass in a vacuum.
- Integrated **multithreading** to parallelize force calculations, significantly improving runtime efficiency on **multi-core CPU**s.

Ant - Pathing Simulation

- Implemented **parallelization** in **C++** with **TensorFlow** to simulate the growth and learning process of ant colonies.
- Utilized **Amdahl's law** to reach processing speeds up to **96%** of the **theoretical maximum** speed of an 8 core cpu.

Used Uniform Marketplace

- Developed a web application using**Typescript** and **React.js** to allow **300+** high-school students to sell and reuse old uniforms

AWARDS

UofTCTF 2025 Top 3 Finalist Award
Jan 2025

University of Toronto

- Collaborated with a team of 5 to achieve **third place** out of **500+** competitors in the University of Toronto's yearly **cybersecurity** competition

2024 VEX V5 Robotics National Champion
May 2024

VEX Robotics

- Contributed to team 82855's victory at the 2024 VEX Robotics **National Championship**, qualifying for the **2024 World Championships**