

Hei Shing (Hayson) Cheung



<https://github.com/HaysonC>

EDUCATION

University of Toronto

Bachelor of Applied Science in Engineering Science

Sept. 2024 – Present

Toronto, ON

RELEVANT EXPERIENCE

Aerospace Team - Control Systems

Member

Sept. 2024 – Present

University of Toronto, CA

- Contributed to control systems in **MATLAB** and **Python** for the FINCH satellite mission, supporting precision in altitude planning for targeted imagin.
- Implemented satellite orientation control mechanisms to ensure accuracy in data collection.

Yannes Solution Ltd.

Engineering Intern

Jun. 2024 – Aug. 2024

Hong Kong

- Developed a **Python**-based system for organizing and processing on-site images, optimizing project documentation.
- Administered the installation of **500+ CCTV cameras** across the Hong Kong Metro's east rail line, enhancing safety and security.

VEX Robotics

Team Leader

Sept. 2023 – May 2024

Ridley College, St. Catharines, ON

- Led a team of **20 members** to design and build competitive robots for the St. Catharines and Ottawa VEX Opens, increasing team efficiency and collaboration.
- Directed robot design and functionality to achieve performance in VEX competitions.

Coding Club

Executive

Sept. 2022 – May 2024

Ridley College, St. Catharines, ON

- Instructed and Applied greedy algorithms, linear programming and commonly used hashing algorithms
- Instructed **40 novice students** in foundational coding skills, with **7 students qualifying for the Canadian Computing Competition**, demonstrating successful curriculum impact.
- Organized events introducing STEM principles to **150 junior students**, fostering early interest in technology.

PROJECTS AND AWARDS

AWS Hacks

winner

- Built a backend algorithm to analyze roommate descriptions by extracting keywords, transforming them into semantic vectors, and assessing compatibility using AWS service.
- Enhanced matching efficiency and accuracy, resulting in a streamlined process for pairing roommates with similar preferences and habits. Featured and in the process pf presenting to UofT to explore potential deployment.

NewHacks

- Applied a convolutional neural network and compute eigenfaces to analyze and detect user emotions, enhancing platform responsiveness.
- Deployed AI models through web applications via **TensorFlow** and **Flask**, enabling user-friendly, real-time emotion detection.

Neat Pong Bot

- Designed a high-performance Pong bot using the NEAT (NeuroEvolution of Augmenting Topologies) architecture for unsupervised learning, achieving consistent wins against human players and competing AI models.
- Actively exploring the integration of **deep learning architectures** such as CNN and Q-learning to enhance and compare performances.

Honour Roll

Canadian Computing Competition

Feb. 2023

University of Waterloo, ON, Canada

- Secured a **Top 5% finish** in the Canadian Computing Competition.