

Jason Wang

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GitHub: <https://github.com/Vuwij>

Website: <http://vuwij.github.io>

Education

2015-2020

Department of Electrical and Computer Engineering

University of Toronto

Bachelor of Computer Engineering (April 2020), Minor in Robotics and Business (3RD YEAR GPA 3.75)

Dean's Honours List, NSERC USRA Summer Research Award

Technical Skills

Programming Languages: C/C++, Matlab, Python3, C#, Mathematica, \LaTeX , HTML/CSS

Software Frameworks: ROS, Docker, OpenCV, Tensorflow, Unity Engine

Relevant Courses: Robot Modelling and Control, Inference Algorithms and Machine Learning, Control Systems, Systems Control, Digital Control, Introduction to AI, Algorithms and Data Structures

Languages: English (Native), Chinese (Native), Japanese (Intermediate), French (Beginner)

Work and Research Experience

2018 May -
(Current)

Tailsitter Vision/Control Research Thesis ([Github](#)) [University of Toronto Institute for Aerospace Studies](#)

- Developed computer vision of a special tailsitter drone that docks into other tailsitter drones mid-flight. Tracked the relative location using Apriltags and improved localization estimates.
- Supervisor: [Professor Jonathan Kelly](#).

2019 Sept -
(Current)

A Walking Acrobot Capstone Project ([Github](#)) [University of Toronto System Controls Laboratory](#)

- Currently in a team of 4 to demonstrate real life applications of virtual holonomic constraint theory by developing a two-legged robot coupled with a single DC motor that can walk by flipping like an acrobat.
- Supervisor: [Professor Manfredi Maggiore](#).

2018 -2019

Software Engineering Intern - Robotics [Rapyuta Robotics](#)

- Created a full simulation and integration testing system of a multi-robot warehouse delivery system. The robots coordinate with workers to fulfill orders retrieved from an inventory management system. Used ROS and C++ to write the simulation framework. Used docker and cloud infrastructure to simulate 30 robots communicating and fulfilling orders on the cloud.
- Working with the ALICA robot state machine engine, and used Google ORTools to optimize and simulate human movement to find the optimum human movement which reduces the cost.

Extracurricular Activities and Projects

ENGINEERING STUDENT GROUPS

2016-Now

Founder and Software Lead ([Github](#)) [University of Toronto Robotics Association](#)

- In 2017, formed a team of 20-30 members working on mechanical, electrical, software and control design of a humanoid soccer robot. Our faculty advisors are [Prof. Jonathan Kelly](#) and [Prof. D'Eleuterio](#).
- For robot control, used simple trajectory generation with constant linear feedback to keep the robot balanced. For computer vision, used OpenCV to integrate line detection with particle filtering to localize the robot. Used darknet for tracking the soccer ball. [Source Code](#)
- Attended the 2018 robocup in Montreal as the only Canadian team in the small sized league consisting of purely undergraduate students. [Website](#)

2016-17

Team Lead [Hacker Academy](#)

- Created the challenge for the [DeepHealth Hackathon](#), University of Toronto's first healthcare and machine learning hackathon. Around 80 graduate and undergraduate students attended the challenge.