

RICHARD HU

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EDUCATION

University of Toronto – Mechanical Engineering, Bachelor of Applied Science

Sept 2013 – Present

- Mechatronics & Bioengineering Stream, Robotics and Mechatronics Minor. GPA (3.81/4.00)
- Shell Canada Limited Engineering Scholarship (2015)
- University of Toronto Excellence Award (2015)
- Dean's Honour List (2014 – Present)

EXPERIENCE

Conavi Medical, Toronto — Mechanical Design Intern

May 2016 – August 2017

- Developed strong organization and presentation skills through driving and preparing 3 major technical design reviews with senior leadership in attendance.
- Proactively established an adaptable inventory system with full traceability for over 140 components. Led to improved plannability of major milestone and V&V activities and ensured reliability of regulatory submission document.
- Applied skills such as jig design, statistical analysis, tolerance analysis, MATLAB and SolidWorks to conduct engineering design testing, and designed components that was critical to patient safety.
- Coordinated with senior engineers to develop and optimize manufacturing processes, drafted work instructions and developed part specifications.

RELEVANT PROJECTS

Autonomous Maze Navigation Rover Design — Systems Developer

Toronto, September 2017 – December 2018

- In a team of 5, built an autonomous rover that is capable of maneuvering through a maze, performing obstacle avoidance, localization, pathfinding, pick up and deliver a payload to designated location.
- Designed overall software architecture of the rover.
- Implemented 2D histogram localization, obstacle detection and avoidance, and path planning algorithm using MATLAB and Arduino.

Open Architecture Quadcopter Capstone Design — Project Manager & Mechanical Designer

Toronto, September 2017 – Present

- Bridged the communication gap between the supervisor, client and team via continuous and open communication.
- Applied learnings from leadership courses to inspire and empower members to be active, creating a professional, and synergizing team environment.
- Oversaw project progress and direction, used Gantt chart plan project flow, proactively engage with teammate to formulate feasible personal work plan for each team member and overall team goals.
- Using SolidWorks and ANSYS and 3D printer to design, analyze, and prototype the designed mechanical components and conducted verification testing.

Pico-Scale Hydro Turbine Variable Guide Vane Actuation Design — WERL Lab Researcher

Toronto, January 2018 – Present

- Designing a variable guide vane mechanism for a 4-inch diameter, self-powered turbine for a startup company that is in collaboration with University of Toronto Water and Energy Research Lab.

Autonomous Turtle Bot — Software Developer

Toronto, January 2018 – Present

- Using opensource ROS packages to program a Turtle Bot to explore and map an unknown map.

EXTRACURRICULARS

Mechanical & Industrial Engineering Mentorship Program – Mentor

University of Toronto, September 2017 – Present

- Advised junior engineering students on how to establish study goals, obtain research opportunities, how to participate in skill building extracurriculars.

New Start – Tutor

Toronto, August 2014 – September 2015

- Instructed a group of students ranging from high school, to 2nd year U of T students on English, Physics, Chemistry and Calculus.
- Counseled students in defining study goals and formulate personal study methods.

U of T Engineering Competition (UTEK) Junior Design – Award Winner

Toronto, January 2015

- Created a design and pitched its proposal in a team of 4 in a competition against 26 other teams.
- Innovated under immense pressure, time constraint and limited resource.
- Coordinated team discussion, motivate teammates, and made critical decision on design approach for the team.
- Received “Best Innovation Award” and “Best Prototype Award”.

SKILLS & INTEREST

Technical Skills: SolidWorks, Arduino, MATLAB & Simulink, ROS, Machining, Microsoft Excel

Soft Skills: Teamwork, Project management, Big picture thinking, Strong work ethics, Multitasking.

Language: Fluent in English and Mandarin.

Interest: Gadgets, Board Games, Films, Anime, Food, Cooking