# RICHARD HU

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# EDUCATION

## University of Toronto – *Mechanical Engineering, BASc. GPA (3.81/4.00) Toronto,* Sept 2013 – Present

* Mechatronics & Bioengineering Stream, Robotics and Mechatronics Minor.
* Shell Canada Limited Engineering Scholarship (2015), University of Toronto Excellence Award (2015), Dean’s Honour List (2014 – Present).

# WORK EXPERIENCE

## Conavi Medical — *Mechanical Design Intern* Toronto, May 2016 – Aug 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 reliability of regulatory documents.
* 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.
* Developed and optimized manufacturing processes, drafted work instructions and developed part specifications.

# RELEVANT PROJECTS

## Autonomous 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.
* Implemented 2D histogram localization, obstacle detection and avoidance, and path planning algorithm using MATLAB and Arduino.

## Quadcopter Capstone Design — *Project Manager & Mechanical Designer* Toronto, September 2017 – Present

* 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 mechanical features.

## Pico-Scale Hydro Turbine 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.

# EXTRACURRICULARS

**MIE Mentorship Program –** *Mentor* University of Toronto, September 2017 – Present

* Advised junior mechanical and industrial 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.

# 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