

# Hou Chong Chan

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## EDUCATION & WORK EXPERIENCE

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**The Cooper Union for the Advancement of Science and Art** New York City, NY  
Bachelor of Engineering, Mechanical Engineering Projected 2018

- **CUMULATIVE GPA: 3.5/4**, Student Merit Scholarship, Rosemary Okun Scholarship **2014-Present**

**Lead research assistant, Center for Innovation and Applied Technology, The Cooper Union**

**Founding Director, Prof. Robert Dell** **2016 - 2017**

- Tested the patented Thermoelectric Generator Testing in Iceland, collecting data and writing reports for published peer reviewed ASME and Geothermal Resources Council conference papers
- Developed an enhanced open field heated agriculture system maintaining temperatures between 45-65 C to increase plant growth and enable the survival of out of region plants using waste geothermal hot water

**REU Intern, Center for Manufacturing Research, Tennessee Technological University** **2017**

- Developed machining apparatus to manufacture microscopic fibrillary adhesives cutting patterns 170 microns deep and 60 microns apart using high precision linear actuators and high grit dicing blades
- Developed continuous track-based remote robot that climbs vertically using micro suction tapes in conjunction with a variable spring suspension system

## SELECTED ENGINEERING PROJECTS

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**Autonomous Sumo Robot, Mechatronics Sumo Competition** **2017**

- Machined and designed a Sumo Robot with a ramp design to lift other robots
- Programed microcontroller in PIC Assembly and designed circuit using IR sensors and motor drivers

**Compressor stage of Turbofan Engine Design, Computer Aided Engineering** **2017**

- Designed 13 rotor and stator stages of the compressor with an 18 pressure ratio and 52% efficiency
- Analyzed the design using a sliding mesh model under boundary conditions at different altitudes

**Turbine Tower Design, Computer Aided Engineering** **2016**

- Designed tower, flange, and fasteners to withstand thermal loading due to temperature change of 70 K, maximum axial loading of 1 MN and avoid blade resonance

**Formula SAE Car Design** **2017**

- Simulating CFD analysis on the air duct to improve radiator cooling efficiency
- Designing drive train for the Formula SAE vehicle
- Designing active DRS system to optimize overtake vehicle geometry during overtaking and cornering

**Two-Player Arcade Machine** **2016**

- Designed and machined a machine consisted of a pneumatic gun and Arduino-controlled valve system
- Integrated electronic scoreboards that changes depending on the sensor feedback

## SKILLS

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**Software:** LabVIEW, SolidWorks, Inventor, AutoCAD, ANSYS (APDL, Workbench, Fluent), HyperMesh, Arduino, Microsoft, Photoshop, Blender

**Languages:** MATLAB, C, Python, HTML, CSS, JavaScript

**Machining:** 3D Printing, Laser cutting, Milling, Lathing, Welding (In process)

## LEADERSHIP ROLES

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**Pi Tau Sigma** (Mechanical Engineering Honors Society), *Vice President*

- Improve ME curriculum by adjusting coursework based on feedback and organize FE Exam Preparations

**Chinese Student Association**, *President*

- Organize networking and cultural events spreading Chinese culture

**Chinese Yo-yo Club**, *President*

- Construct performance routines and perform in large-scaled student events