

# Lei Yu

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## Education

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**Ryerson University**  
Bachelor of Engineering (Mechatronic Engineering)

**09/2017 - Present**  
CGPA: 3.95 CGPA

## Awards

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**Dean's List:** awarded Jul 2020  
Faculty of Architectural and Engineering Science, Ryerson University

**Mechanical Engineering Alumni Award-Second Year:** awarded Nov 2019  
Department of MIE, Ryerson University

**Dean's List:** awarded Jun 2019  
Faculty of Architectural and Engineering Science, Ryerson University

**Mechanical Engineering Alumni Award-First Year:** awarded Nov 2018  
Department of MIE, Ryerson University

**Dean's List:** awarded Jun 2018  
Faculty of Architectural and Engineering Science, Ryerson University

## Work Experience

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**Temporary Custodial Services: Chinese Gospel Church** **05/2019 - 12/2019**  
General cleaning and maintenance of the building, use of power tools to do minor repair and installs, ensuring safety and security of building

**Assembler: Eurospec Manufacturing Inc.** **06/2018 - 08/2018**  
Operated welding machines (spot and MIG welding) to create auto parts and ensure quality. Cleaned work space to create a clean, safe, and efficient work environment. Reported work done per shift.

**Summer Camp Junior Counselor: Chinese Gospel Church** **06/2017 - 08/2017**  
Taught bible lessons to children of age 6 to 12. Led games and science showcase. Led and planned a full-day of program.

## Volunteer Experience

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**Tutor: Toronto City Mission** **09/2020 - Present**  
Tutoring math and English through Zoom. Teaching of math concepts, and demonstrations through screen share. Planning math and literacy lessons.

**Church In Person Registration System: Chinese Gospel Church** **10/2020 - Present**  
Using google sheet and python to develop a system for church members to register for in person church. Use of Google Drive and Google Sheet API. Use of panda, and numpy. Creation of bar codes for attendees.

## Technical Skills

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Python, Matlab, C, Git, Assembly, HTML, CSS, Arduino, Bash Script, Experience with Linux, SQL

## Previous Projects

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### **Bicycle Shock Absorber**

**03/2020 - 04/2020**

Worked in a team of 6 to design a shock absorber for a bicycle. Using the transmissibility ratio to determine the value of spring and damping coefficient, as well as the mass and frequency of the absorber. Matlab was used to aid in simulation and calculation.

### **Single Stage Gear Box Design**

**03/2020 - 04/2020**

Worked in team of 6 to design a single stage gear box. Was responsible for the design of the shaft. Did force analysis, deflection, static and dynamic load analysis, and critical speed analysis. Matlab was used to aid in calculation. Was also responsible for bearing selection. Did research on use of couplers.

### **Four Bar Mechanism Design**

**02/2020**

Worked in a team of 4 to design a four bar mechanism with a coupler point that traces a figure 8 path. Used MatLab to aid in design through simulations and to conduct error analysis. Gained full mark within the project.

### **Rankine Cycle Power Plant**

**09/2019 - 12/2019**

Worked in a team of 5 to design a rankine cycle that can power a city of 36,450 people. Was responsible for choosing the parameters at each stage of the cycle. Selected pumped to be used in the power plant.

### **Elastic-band Powered Car**

**01/2019 - 04/2019**

Worked in a team of 6 to design and manufacture a working elastic band powered car that is able to clear 5 meter in 15 second and clear a hill with  $60^\circ$  incline.

### **Tire Changing System**

**09/2018 - 12/2018**

Worked in a team of 5 to design a tire changing system that is less strenuous to operate. Physical capabilities of minorities were considered in the design. Different design techniques were utilized in the design process: Decision Matrix, System Diagram, Situated Use Case, Usage Scenario etc.