RAJ **ZALA**

647-527-8623
zalaraj720@gmail.com
/in/raj-zala
rajzala.co

SUMMARY OF QUALIFICATIONS

- Project-oriented experience in SolidWorks, ANSYS, MATLAB, HTML, CSS, Python, and JavaScript
- Hardware literacy - 3D Printing, Arduino, Machining
- Effective analytical and design skills cultivated through designing CAD models to solve problems, and using FEA to test as well as optimize components in designs
- Wet and dry lab experience acquired through conducting wet etching and performing mechanical material testing
- Developed project management and leadership skills through leading multiple engineering projects with strict timelines

EXPERIENCE

Mechanical Team - Project Lead| Waterloo Airlock Design Team

SEPTEMBER 2018 – PRESENT

- Working with a team of 40 to produce a fully functional and self-sustainable airlock for a Mars colony
- Led creation of hatch system to connect airlock to the atmosphere of Mars using SolidWorks and ANSYS
- Investigated various materials and designs to optimize movement of the hatch through conducting FEA
- Effectively communicated with other sub-teams to ensure all systems are compatible with one another

Mechanical and Software Team | Bio-Mechatronics Design Team

SEPTEMBER 2018 – PRESENT

- Successfully modelled fingertips of exoskeletal grip assist using 3D printing and SolidWorks
- Analyzed Arduino and MATLAB code for movement of arms in order to optimize and make improvements
- Collaborated with large team to meet strict deadlines, while communicating through Github, GrabCAD, Slack, and other work-flow organizational tools

Volunteer Research Assistant | Functional Nanomaterials Group

DECEMBER 2018 – PRESENT

- Improved efficiency of FTO and ITO etching process through engineering an etching mechanism using SolidWorks and 3D printing
- Successfully wet etched FTO glass with Zinc powder and HCl to use during perovskite solar cell fabrication

PROJECTS

Space Jousting | Unity, C#, Arduino

- Created award winning functional recreational application using various components of C# and Unity
- Incorporated ultrasonic sensor based hands-free remote control into the game using Arduino

Derby Race Car | SolidWorks

- Effectively led a team of 5 engineers to design a fully functional race car on SolidWorks
- Personally modelled and assembled steering mechanism, and managed several other subcomponents of the car from creation to assembly

EDUCATION

Candidate for BASc in Nanotechnology Engineering | University of Waterloo

SEPTEMBER 2018 – APRIL 2023