RICHESH PATEL

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Richmond, BC

Technical Skills

Software

- C, C++
- Excel
- MATLAB
- Solidworks
- Python

Hardware

- Soldering
- Circuit Analysis
- Function Generator
- Oscilloscope
- Power Tools

Work Experience

Systems Engineer Sep 2021 - Apr 2022

Stryker, Burnaby, BC

- Created and maintained testing structures using Solidworks and 3D printing to develop the necessary components.
- Maintained documentation throughout new technical updates and meetings on several ongoing projects.
- Presented suitable replacements for various components on ongoing projects, testing structures, and documentation.

Teacher Sep 2019 - Dec 2019

Robokids, Surrey, BC

- Gained debugging experience with several programming languages, including Python and C++, and robotics.
- Expanded leadership and management abilities by leading a group of students through their tasks and teaching classes.
- Developed communication abilities through teaching and explaining ideas through a constant stream of students that needed assistance.

Projects

Wildfire Ember Detector May 2022 - Dec 2022

Systems Engineer, Engineering Capstone Project

- Created the electrical design of the project through electrical diagrams and power calculations to detect re-ignitable embers underneath the ground for the wildfire cleanup process.
- Designed the mechanical structure of the Ember Trailer using Solidworks which needed to hold all electronic components and have the ability to be pushed by the user.
- Refined and simplified design by testing and discussing to reduce costs and create a more user friendly design.

Projects

Foldable Mobile Rover and Arm Mar 2021 - Apr 2021

Lead Mechanical Designer, Introduction to Mechanical Design

- Designed a rover using Solidworks which had the job of being able to retract and deploy its wheels to dock itself under a desk, move around a "typical" living space, and move and fold its arm.
- Analyzed the structure of the rover using Solidworks and selected materials in order to find its possible movements, tipping conditions, and any inconsistencies that needed to be resolved.
- Took lead in the group by setting meetings, deadlines, keeping documentation updated, and maintaining an effective flow of communication to finish the project in the short deadline given.

Canadian Satellite Design Challenge Sep 2018 - Dec 2019

Satellite Structural Designer, Satellite Club

- Designed modular housings for the main components of the structure such as the altitude determination and control system, power system, PCBs, and others using Solidworks.
- 3D printed and prototyped parts of the cubesat structure in order to test the design.
- Designed the antenna deployment mechanism using nichrome wire and string approach for successful deployment.

Balloon CDR Apr 2018 - Aug 2018

Satellite Structural Designer, Satellite Club

- Launched a cube consisting of several sensors and a camera to record the temperature, where it was travelling, humidity, altitude, and take pictures.
- Built the cube using styrofoam as the walls and hand warmers to keep the temperature inside warm to withstand the high altitude and the landing.
- Tested the structure of the cube in order to find out whether it could withstand terminal velocity.

Education

Bachelor of Applied Science, Engineering Science - Systems Sep 2017 - Apr 2023

- Simon Fraser University, Burnaby, BC

Awards

President's Honour Roll May 2020 - Aug 2020

Simon Fraser University, Burnaby, BC

- Minimum term GPA of 4.00