Ronald Trang

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TECHNICAL SKILLS

Design	Programming	Other
• SolidWorks • AutoCAD • GD&T • Additive Manufacturing	• C++ • MATLAB/Simulink • ROS (Robot Operating System)	• Git, Jira, and Agile workflow • Plumbing • Mechanical Assembly • Machining

PROJECTS

Waterloo Rocketry | University of Waterloo

- Machined mounting blocks, plates, and custom components, learning how to use the mill and the lathe.
- Used AutoCAD and SolidWorks to design cylinder trunnion mounts and a test stand clamping mechanism.
- Performed buoyancy calculations for fill sensing tube sensor in fill sense system (hand-calculations).
- Assembled rocket test stand for use in static fire test.
- Designed, assembled, and tested plumbing for oxidizer tank heating system.

Braille Printer | University of Waterloo

- Ideated, designed, and built a braille printer for design project.
- Designed the printer frame, 3D printed motor stand, and movement mechanism using SOLIDWORKS.
- Wrote the technical report that accompanied the braille printer.
- Wrote the script that controlled all physical movement of the printer using C.

Mini Electric Car | Personal Project

- Constructed an electric car and DC motor without the use of ready-made materials.
- Designed the DC motor used in car.
- Analysis of circuit (hand-calculations).

Snow Tracker | NewHacks 2020

- Built a hack that predicts whether there will be significant snowfall based on multiple information inputs and outputs the result to user to aid in decision making
- Programmed Arduino to receive and transmit sensor data
- Used Node-RED to interface Arduino with PC, phones, and API's.

EXPERIENCE

Undergraduate Research Intern | AVRIL – University of Waterloo — May 2020 – August 2020

- Developed expertise of additive manufacturing technology, applications, and materials through research.
- Explored and documented Generative Design workflow for Hokuyo lidar mount on SolidEdge.
- Wrote a 2D Visualizer script on MATLAB to post-process simulation data from vehicle.
- Wrote a script to convert photos of environment to an occupancy map for initial vehicle path planning.
- Wrote scripts in C++, using ROS framework to allow lidar scan and odometry data from vehicle simulation to be visualized in rviz. Done in linux environment

INTERESTS

- Skiing, Skating, and general exercise.
- Playing music, particularly piano and percussion.