KAARTHIC PULO
3A MECHANICAL ENGINEERING

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SKILLS

- SolidWorks, ANSYS, FEA, Creo/Pro E, AutoCAD, MATLAB, VBA, Python, Arduino
- Strong analytic and problem solving skills developed while pursuing complex and challenging projects

EXPERIENCE

Satellite Design Engineer
Canadian Space Agency — Sept. 2018 to Dec. 2018

- **Integrated MATLAB with Excel** and Satellite Toolkit (STK) to create internal tool to compare and evaluate merits of different orbits for future satellite missions **Click for more info**
- Utilized above orbit selection tool to **optimize orbit for an upcoming mission** by analyzing satellite coverage times and velocities
- Created simulation to track satellite constellation coverage over Canada as proof-of-concept study

Propulsion Design Lead
Waterloo Hyperloop Design Team — May 2018 to Current

- Developed and prototyped **linear induction motor for propulsion** of pod for **SpaceX Hyperloop Competition**
- **Managed propulsion team** by identifying key topics for research and ensuring tasks are completed
- Utilized **SolidWorks** and **ANSYS FEA** to manage assemblies and evaluate components on pod

Mechanical Engineer
Alcohol Countermeasure Systems Inc. — Jan. 2018 to Apr. 2018

- Designed column protection device using **SolidWorks sheet metal**; device was successfully produced and installed
- Created new and updated drawings for manufacturing using **GD&T**
- Designed modular battery enclosure capable of accommodating to secure batteries and wires

Robotics Designer
ESI Robotics and Automation — May 2017 to Aug. 2017

- Performed **FEA** of robot parts and submitted recommendations to reduce deflection by 50%
- Used **Creo Parametric/Pro E** to design and **rapidly prototype 3D printed** timing belt tensioner, reduced tooling costs

PROJECTS

1315-MH Wind Tunnel — Sept. 2015 to Jan. 2016

- Designed and fabricated wind tunnel frame using **AutoCAD** to hold sensors and airfoil to integrate **electrical components into mechanical design**
- Integrated differential pressure sensor with **Arduino** to measure wind speed inside tunnel
- Authored a technical document describing functionality, costs, and design of wind tunnel

Collecting and Sorting Robot — Jan. 2017 to Apr. 2017

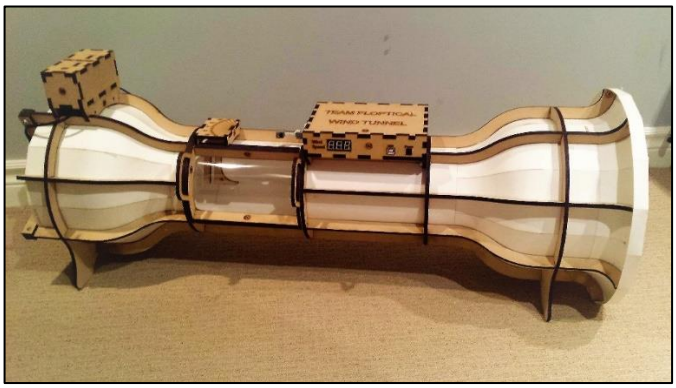
- Designed **autonomous robot** capable of of searching, lifting, and sorting items
- Devised optimal **claw mechanism** to clasp and lift items to be sorted

SolidWorks Surface Modelling — Jan. 2018 to Feb. 2018

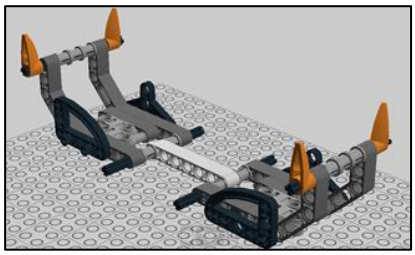
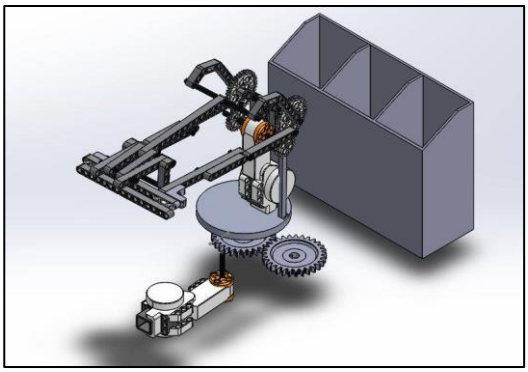
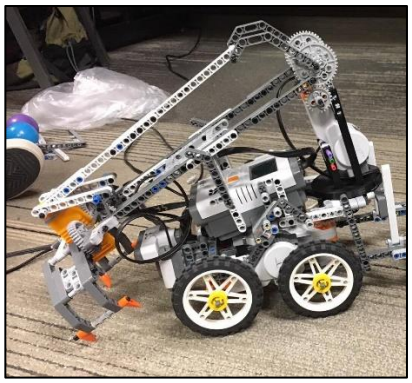
- Used **SolidWorks** surface modelling features to model set of animal shaped tea infusers

KAARTHIC PULO - Portfolio

1315-MH Wind Tunnel


Collecting and Sorting Robot

SolidWorks Surface Modelling