KAARTHIC PULO
MECHANICAL ENGINEERING

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in linkedin.com/in/kaarthicp

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

Mechanical Engineer - Dynamic Analysis
Curtiss Wright - Indal Technologies   May 2019 to Aug. 2019
- Applied principles of **dynamics and calculus** to analyze forces on helicopter when landing on ship deck
- **Improved efficiency of simulation by 50%** by automating procedures through **Python and batch scripting**
- Post-processed data using **VBA** and used engineering judgement to determine when further analysis had to be completed

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 my orbit selection tool to **optimize orbit for missions** 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**

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

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
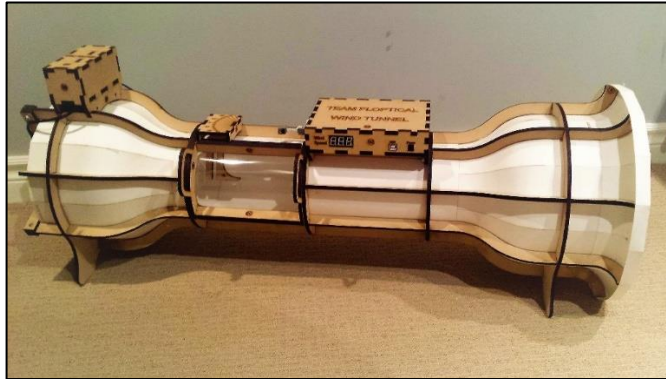
EDUCATION

University of Waterloo
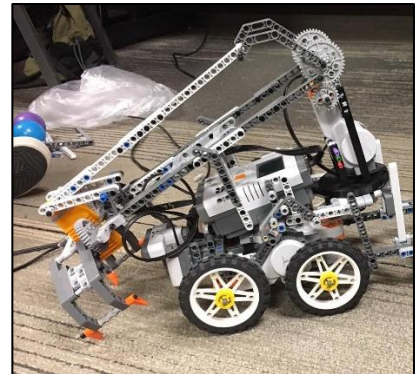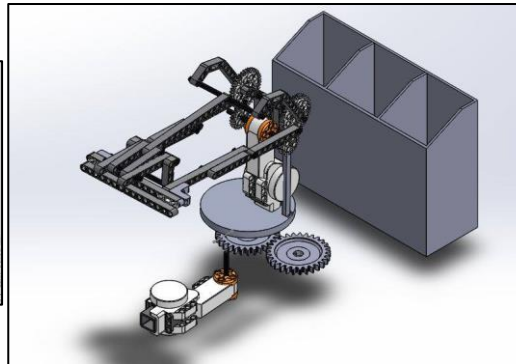B.ASc Honours Mechanical Engineering 2021
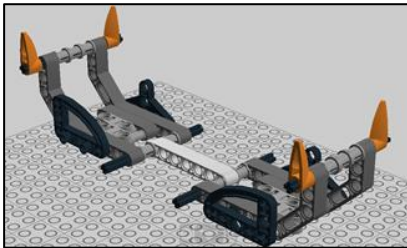
KAARTHIC PULO - Portfolio

1315-MH Wind Tunnel

Collecting and Sorting Robot

SolidWorks Surface Modelling