JEROMY DENK

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EDUCATION

University of Ottawa 2015 - 2022

B.ASc. Mechanical Engineering *Ottawa, ON*

WORK EXPERIENCE

Immigration, Refugees and Citizenship Canada September 2018 - August 2019

ATIP Officer *Ottawa, ON*

- Tasked with indexing access to information and privacy requests
- Supported the automation of existing workflows through the creation and maintenance of Excel VBA-based applications
- Improved inter-departmental communication through the development of a standardized machine-readable information request form
- Created an Excel VBA-based web-scraping application used by data analysts to batch-download and correctly format files from internal database

SKILLS

Software: Solidworks, AutoCAD, ANSYS, Adobe Suite, Office Suite

Programming: Python, MATLAB, VBA, Google Scripts, C, LaTeX

ACADEMIC PROJECTS

Submarine Ballast System December 2020

- Developed a submarine ballast system capable of maneuvering a two-person submarine at depths of 1000 metres as part of a four-person team
- Using a MATLAB GUI, parametrized Solidworks part files allowing for changes in the ballast system design to be automated depending on customer request
- Using ANSYS, optimized design of submarine main ballast tanks and main ballast tank mounting structure to withstand collisions with terrain

Self-Leveling Glider November 2017

- Involved in a three-person team tasked with designing a glider that levels its wings when thrown by hand
- Programmed a microcontroller to adjust the glider's control surfaces based on input provided by an inertial measuring unit
- Designed and manufactured a circuit board integrating the microcontroller, servo motors, and inertial measuring unit

uOttawa Rocketry Team February 2017 - November 2017

- Tasked with designing and manufacturing a servo-controlled oxidizer valve for a hybrid sounding rocket
- Heavily involved in the design and manufacturing of rocket oxidizer tank and combustion chamber
- Designed rocket's fins using Solidworks and Microsoft Excel scripting to ensure optimal aerodynamic stability

Two-Axis Step-Motor Driven Drawing Robot March 2017

- Built an inexpensive, open-source drawing using 3D printed parts, a microcontroller, and step-motors
- Created an script that converts downloaded images into drawing paths for the robot based on image brightness