Michal Jagodzinski

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Education

BEng Aerospace Engineering at Toronto Metropolitan University 2018 – 2022

Skills

Programming and Software

- General proficiency with MATLAB/Simulink, Python, and Julia.
- Basic proficiency with C/C++, R, and SQL.
- Proficiency with Microsoft Office software, git, and LaTeX.

Engineering Tools

- Moderate experience using CATIA for modeling and stress analysis from course work and projects.
- Basic experience with STK for space mission analysis, basic experience with SU2 and ANSYS for CFD.

Work Experience

Formify – Python Developer Nov 2021 - Ongoing

- Volunteering with student-run startup that algorithmically creates custom-fit ergonomic computer mice for customers.
- Working on the company codebase written in Python, focusing on automating manual tasks, cleaning up existing code, and implementing new features to speed up the mouse creation process saving hours of manual labour for touch-ups and fixes.

Compugen – Operations Analyst Jun 2019 - Sep 2019

- Worked in the Compugen Network Operations Center.
- Tasks involved monitoring customer devices and infrastructure, conducting preliminary investigations for events, escalating issues upon discovery of real problems, and communicating with coworkers in Operations and other departments.

Projects

Orbit Tool – Personal Project

- Written in Python using the Streamlit web framework.
- Implemented algorithms to simulate and plot various orbit propagators (two-body, three-body, circular-restricted three-body, etc.) using a Runge-Kutta ODE solver.
- Implemented algorithm to plot satellite ground tracks based on inputted orbital elements.

Capstone Project (Kickstage Spacecraft) – Fourth Year School Project

- Worked as part of the Attitude and Orbital Control System sub-team, oversaw designing and testing of the attitude control system.
- Developed a library of tools written in Julia to simulate, test, and present the results of the attitude control system of the satellite in low-earth orbit.
- Included functionality for simulating orbits, spacecraft disturbance torques, attitude determination, and implementing a generalized control simulator that allowed for rapid testing of different controllers.

Aerial Thermography System – Fourth Year School Project

- Designed the electronics and wrote the embedded software to run a thermal-imaging drone payload.
- Created a post-processing tool written in Python to visualize the recovered data, display flight path from accelerometer readings, and stitch individual thermal images together to form a map.