Aidan Donovan

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Education

Boston University, BS in Mechanical Engineering — Sept 2022 – May 2026

- GPA: 3.98/4.0

Experience

Maxar Space Systems — **Palo Alto, California**
Engineering Intern — May 2025 - Aug 2025

- Designed and implemented an image processing pipeline in Python using OpenCV and unsupervised machine learning to identify failures in on spacecraft heater, developed a PyQt based GUI to support efficient user verification and inspection workflows
- Utilized Thermal Desktop to model spacecraft radiation and conduction heat transfer and predict thermal behavior in space environments
- Automated analysis and visualization of satellite telemetry by writing Python scripts that generate continuously updating plots of thermal performance metrics, enabling real time system monitoring

Opsys Tech — **San Jose, California**
Engineering Intern — June 2024 - Aug 2024

- Developed Python code to solve three-dimensional heat conduction problems using finite volume method, enhancing accuracy of thermal analysis for VCSEL components
- Performed simulations using Autodesk CFD to assess thermal performance of various VCSEL packing designs, identifying key parameters impacting final temperatures
- Optimized design by analyzing thermal data, providing actionable insights influenced refinement of heat management strategies for VCSEL technology

Fitch Metals Engineering — **Sydney, Australia**
Engineering Intern — Sep 2024 - May 2025

- Undertook finite element analysis (FEA) using Autodesk Inventor to assess structural integrity of oven roller designs, ensuring correct mandrel shaft size for optimal support and durability
- Utilized Autodesk CFD to evaluate multiple oven plenum designs, identifying most efficient configuration for heating paint-coated coils, contributed to enhanced operational efficiency
- Integrated analysis findings into design iterations, refining oven plenum and roller configurations based on FEA and CFD results, leading to optimized thermal efficiency and structural reliability

Lejeune Lab - Boston University — **Boston, Massachusetts**
Undergraduate Research — Jun 2023 - Aug 2023

- Conducted research in 2D Digital Image Correlation (DIC) and image processing techniques for experimental applications in complex geometries
- Utilized OpenCV and Python programming to implement advanced image processing algorithms for data analysis and visualization
- Employed various image enhancement techniques, including noise reduction, edge detection, and image segmentation, to improve accuracy and reliability of DIC measurements

Boston University Undergraduate Programs Office — **Boston, Massachusetts**
Peer Tutor — Jan 2024 - May 2024

- Provided one on one and group tutoring for undergraduate students in engineering disciplines

Skills

Languages: Python, MATLAB, C

Technologies: SolidWorks, Inventor, Onshape, Autodesk CFD, Thermal Desktop