

# Murray Gordon

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## Education

**Northeastern University**  
*B.S. Mechanical Engineering*

Sep 2020 - Dec 2024  
GPA: 3.6

**University of Cape Town**  
*B.Sc. Mechanical Engineering*

Jan 2020 - June 2020  
GPA: 3.75

## Key Skills

**CAD:** Solidworks (CSWP), Fusion 360, FEA, Weldments, Sheet Metal Design

**Code & Electrical:** Python, Matlab, Arduino, Swift

**Mechanical:** 3D Printing, Laser Cutting, CNC Router, DFM Principles, Root Cause Analysis

## Experience

### Fortify 3D

*Process Engineering Co-op*

Jan 2023 - June 2023

- Coded a Python script to quantify the error in nTopology lattice voxels and output correction factors that ensured the dimensional accuracy of fine features
- Designed experiments using Minitab statistical software to improve the teams understanding of the limits of printer performance
- Developed the printing process for a novel, high viscosity resin that unlocked 7 figure funding for the company
- Designed jigs in Fusion 360 that improved the accuracy of QA measurements and reduced the measurement time by 70%

### Northeastern Electric Racing - FSAE Team

*Structural System Head*

Jan 2023 - Present  
Nov 2023 - June 2024

- Budgeted the system's money using a zero-based budgeting method to come in 5% under the total allocation
- Lead a team of 10 to deliver 4 separate projects on time and within the target specifications
- Trained new team members in Solidworks, engineering fundamentals and system specific knowledge in weekly seminars, resulting in an 80% retention rate
- Manufactured structural components of the race car using a CNC router, CNC mill and laser cutter

*Chassis Lead*

April 2023 - Nov 2024

- Collaborated with mechanical and electrical systems leads to optimize the chassis design for their integration needs
- Optimized the torsional rigidity of the chassis using Solidworks FEA to improve it by 38.4%
- Simulated side, frontal and rollover impacts using Ansys Mechanical to ensure the chassis had the team's required factor of safety (1.5)
- Designed the chassis jiggging and manufacturing process that reduced the full chassis setup time by 5x and had a linear accuracy of  $\pm 0.2\%$  over the length of the chassis

### Inkbit

*Process Engineering Co-op*

Jan 2022 - June 2022

- Gathered surface roughness data using a Keyence Optical Profilometer that tracked print process improvements
- Coded a Python script that measured misalignment between the build plate and print head, reducing calibration time by 30%
- Designed a droplet catching device in Fusion 360 that reduced spray and improved imaging when using a drop-watcher
- Solved a major printing defect using Root Cause Analysis that improved the printing success rate by 40%