

NICK TAYLOR

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Denver, Colorado

EDUCATION

Colorado School of Mines

August 2023 - Present

MECHANICAL ENGINEERING *Master of Science*

Expected Graduation in May 2025

- 3.57 Cumulative GPA — Concurrently pursuing a graduate certificate in Space Resources
- Completing 2 M.E. graduate degree coursework tracks: Robotics/Controls, Solid Mechanics/Structures
- Hardware Lead for the Autonomy, Robotics and Intelligent Algorithms (ARIA) Research Lab

University of Colorado at Boulder

August 2017 - May 2022

AEROSPACE ENGINEERING *Bachelor of Science*

Class of 2022 Graduate

- 3.20 Cumulative GPA — Minors in Mathematics and Space Sciences

EXPERIENCE

Operations Research Analyst Intern (GS-09)

August 2022 - August 2023

NORAD & USNORTHCOM HQ — Analysis & Experimentation Branch

Peterson AFB, CO.

- Contributed in the programming development of computational models and simulations in order to enable senior leadership to make more data informed decisions and expand homeland defense solution spaces.
- Developed an analytical model from scratch to estimate the range of a particular RADAR system and inform a test plan to potentially re-purpose the RADAR system's use case.
- Wrote MATLAB programs to process output data from AFSIM simulations and display analytical results in an efficient and digestible format.
- Holding a current DoD security clearance at the TS level.

Fabrication Shop Laborer

May 2022 - August 2022

Horizon Glass

Denver, CO.

- Temporarily assisted in the fabrication shop at an industrial window frame manufacturing company while awaiting administrative processing to begin working full-time at NORAD.
- Used previously obtained tradesman skills to build over 100 window frame transportation crates unassisted and help deliver roughly 450 aluminum window frames that summer, each crate weighing over 1 ton.
- Cut expected crate material costs 15% by optimizing the crate structure to be more spatially efficient and save materials while also enhancing structural integrity and decreasing beam deflection.

PROJECTS

Analytical Modeling & Manufacturing Lead (Senior Project)

August 2021 - May 2022

Gravity Offloading And Tethering Somatosensory Enhancement System

CU BioAstronautics Lab

- Executed a complete systems V model cycle with formal engineering design reviews as a team to engineer a 90 degree test bed loading apparatus that generates an artificial gravity force constantly acting normal to a user's support surface at their feet, regardless of their postural sway.
- Derived an analytical model to predict the resistance due to friction experienced by the user.
- Used this analytical model to inform design decisions with trade studies and sensitivity analysis as a group.
- Designed a manufacturing plan (with a Gantt chart) and led a subteam to procure and assemble the structural subsystem of the device in parallel with other subsystems in 6 weeks.
- Designed and conducted an experimental test on the device to verify friction design requirements were met and determine the validity of the original analytical model used.
- Granted systems engineering group award from the department at the end of the project.