NICK TAYLOR

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LinkedIn ◇ Github Portfolio

SKILLS & CLEARANCES

- Active TS/SCI Security Clearance
- Python
- C++
- Arduino
- MATLAB & Simulink
- STK (Level 1 Cert.)
- AFSIM
- LabVIEW
- SolidWorks CAD
- FEA/FEM (ANSYS, Abaqus)
- Subtractive Manufacturing, 3D Prints
- Git, Linux, LaTeX

EDUCATION

Master of Engineering —— Space Operations August 2025 to TBD
University of Colorado at Colorado Springs **GPA TBD**

Master of Science —— Mechanical Engineering August 2023 to December 2024
Colorado School of Mines **3.77 Cumulative GPA**

- Coursework Tracks: Robotics & Controls, Solid Mechanics
- **Graduate Certificate** in **Space Resources**

Bachelor of Science —— Aerospace Engineering August 2017 to May 2022
University of Colorado at Boulder **3.20 Cumulative GPA**

- Minors in Mathematics and Space Sciences

ACADEMIC RESEARCH PROJECTS

Hardware Team Lead October 2023 to Present
Autonomy, Robotics & Intelligent Algorithms (ARIA) Research Lab Colorado School of Mines

- Led a team in the design, development, and integration of a universal sensor backpack for SLAM robotics, incorporating LIDAR, IMU, and stereo cameras on three mobile robots (Boston Dynamics Spot, Clearpath Jackal and Husky).
- Conducted two iterations of complete engineering design synthesis using a Systems V Model approach with trade studies, sensitivity analysis, and design reviews.
- Fabricated and assembled all T-slot aluminum extrusion, aluminum composite and ABS panelling material parts for the sensor backpack using band saws and a sheet metal shear.
- Designed, 3D printed and installed mounting hardware for an on-board computer, external battery, wifi router, LCD PCB and buck converter mounts using SolidWorks, a Prusa MK4 3D printer and power tools.

Analytical Modeling & Manufacturing Lead August 2021 to May 2022
BioAstronautics Research Lab University of Colorado at Boulder

- Engineered 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.
- Integrated analytical modeling expectations with experimental test results to verify design requirements and validate analytical models.
- Awarded systems engineering group award from the department at the end of the project.

PROFESSIONAL EXPERIENCE

Operations Research Analyst (GS-11) August 2022 to August 2023, May 2024 to August 2024
NORAD & USNORTHCOM HQ —— J84 Analysis & Experimentation Branch Peterson SFB, CO.

- Supported homeland defense designers and planners to refine design trade spaces by providing modeling and simulation solutions using AFSIM and STK software tools.
- Coded MATLAB programs to process output data from AFSIM simulations and display analytical results.
- Analyzed and monitored large datasets of event reports in MATLAB and Python to identify significant trends and anomalies to inform experiment designers.