

EDUCATION

Purdue University – West Lafayette, IN	
<i>PhD Aeronautical and Astronautical Engineering</i> – 4.0 GPA	January 2024 – Present
<i>MS Aeronautical and Astronautical Engineering</i> – 4.0 GPA	January 2023 – December 2023
<i>BS Aeronautical and Astronautical Engineering</i> – 4.0 GPA	August 2019 – December 2022

EMPLOYMENT

Space Situational Awareness Research – Graduate Research Assistant	October 2021 – Present
<ul style="list-style-type: none">Developing light curve inversion algorithms with Dr. Carolin Frueh's Space Information Dynamics group, estimating shape and orientation of human-made space objects from unresolved optical observationsIntroduced new light curve inversion algorithm for non-convex shapes, accelerating simulation by 10,000xCollaborated with PhD students on relative pose estimation and filter design for attitude estimationPrimary operator of the Purdue Optical Ground Station telescope for light curve collection and processing	
Astronomical Institute, University of Bern, Switzerland – Visiting PhD Student	May 2024 – August 2024
<ul style="list-style-type: none">Worked with Dr. Thomas Schildknecht's group on image acquisition and processing for satellite characterization	
Aerospace Corporation – Graduate Astrodynamics Intern	May 2023 – August 2023
<ul style="list-style-type: none">Implemented cislunar formation flight strategies for quasi-periodic orbits in the CR3BP	
Katalyst Space Technologies – Guidance, Navigation, and Control Intern	May 2022 – August 2022
<ul style="list-style-type: none">Developed Python framework for dynamic trade studies for Space Situational Awareness pipeline	
Analytical Graphics, Inc. – Systems Engineering Intern	May 2021 – August 2021
<ul style="list-style-type: none">Guided 130 engineers analyzing active and planned missions in STK and ODTK	

AWARDS & FELLOWSHIPS

National Defense Science and Engineering Graduate Fellowship (NDSEG)	May 2023
NSF Graduate Research Fellowship (GRFP)	May 2023
NASA National Space Technology Graduate Research Opportunity Fellowship (NSTGRO)	May 2023
Third place graduate presentation – <i>Purdue Aeronautics and Astronautics Symposium</i>	May 2023
Best research talk, interdisciplinary research – <i>Undergraduate Research Conference</i>	May 2022
Best undergraduate presentation – <i>Purdue Aeronautics and Astronautics Symposium</i>	May 2022

FIRST AUTHOR PUBLICATIONS

[1] L. Robinson and C. Frueh, "Light curve inversion for reliable shape reconstruction of human-made space objects," in *Proceedings of the 32nd AIAA/AAS Astrodynamics Specialist Conference*, Sep. 2022, pp. 1–19.

[2] L. Robinson, "Light curve simulation and shape inversion for human-made space objects," Master's Thesis, Purdue University, Dec. 2023.

[3] L. Robinson and C. Frueh, "A ccd/cmos telescope digital twin for space situational awareness," *TBD*, 2025, Not submitted.

RELEVANT EXPERIENCE

Founder of Boilerexams.com	November 2019 – Present
<ul style="list-style-type: none">Developed web platform used by ~15,000 Purdue students every semester to study for exams across 21 large engineering and math coursesLead team of 40, giving students insight into studying performance with 5,100,000 answers submitted to dateInterfaced with the College of Engineering administrators, Vice Provosts, and members of Board of Trustees	

TECHNICAL SKILLS

Algorithms: Initial orbit determination, Single and multi-target Kalman filters, Nonlinear batch estimation, Tracklet/catalog association, Optical photometry/astrometry

Languages: Python, C/C++, OpenGL/GLSL, MATLAB, SQL

Technologies: Git, Sphinx, Polars, Docker