

Education

Purdue University – West Lafayette, IN	
Ph.D. Aeronautical and Astronautical Engineering	January 2024 – Present
MS Aeronautical and Astronautical Engineering – 4.0 GPA	January 2023 – December 2023
BS Aeronautical and Astronautical Engineering – 4.0 GPA	August 2019 – December 2022

Employment

Space Domain Awareness Research – Graduate Research Assistant	October 2021 – Present
The Aerospace Corporation – Graduate Astrodynamics Intern	May 2023 – August 2023
Katalyst Space Technologies – Guidance, Navigation, and Control Intern	May 2022 – August 2022
Analytical Graphics, Inc. – Systems Engineering Intern	May 2021 – August 2021

Awards & Honors

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

Professional Activities

Judge – <i>Purdue Aeronautics and Astronautics Symposium</i>	April 2024
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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.

Other Publications

[3] A. Burton, L. Robinson, and C. Frueh, “Attitude estimation from light curves using particle swarm optimizers,” in *The Second International Orbital Debris Conference*, 2023.

[4] A. Burton, L. Robinson, and C. Frueh, “Attitude estimation using light curves: A particle swarm approach,” in *AIAA SciTech 2024 Forum*, 2024.

[5] A. Burton, L. Robinson, and C. Frueh, “Light curve attitude estimation using particle swarm optimizers,” *Advances in Space Research*, 2024, submitted for publication.

[6] C. Frueh, A. Burton, D. Kobayashi, and L. Robinson, “Space object characterization from light curves,” *44th COSPAR Scientific Assembly. Held 16-24 July*, vol. 44, p. 3159, 2022.

Academic Outreach

Founder of Boilerexams.com

August 2019 – Present

- Published 80 hours of video explanations covering 500 questions from past Purdue calculus exams
- Aided over 20,000 students through 22 years of cumulative studying time and 750,000 video views to date
- Lead team of 35 develop and maintain website integrating exam questions and videos, giving students insight into studying performance with 3,400,000 questions answered as of April 2024