Liam Robinson – *Curriculum Vitae*

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Education

Purdue University – West Lafayette, IN

Ph.D. Aeronautical and Astronautical Engineering – 4.0 GPA	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
Astronomical Institute, University of Bern, Switzerland – Visiting Ph.D. student	May 2024 – August 2024
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 – *Purdue Aeronautics and Astronautics Symposium* — May 2023
- Best research talk – *Undergraduate Research Conference* — May 2022
- Best interdisciplinary research – *Undergraduate Research Conference* — May 2022
- Best undergraduate presentation – *Purdue Aeronautics and Astronautics Symposium* — 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.

Other Publications

[4] A. Burton, L. Robinson, and C. Frueh, "Attitude estimation from scratch for human-made objects using light curves," in *The Second International Orbital Debris Conference*, 2023.

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

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

[7] 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.

[8] A. Burton, L. Robinson, and C. Frueh, "Light curve attitude estimation using particle swarm optimizers," *Advances in Space Research*, 2024, ISSN: 0273-1177. DOI: https://doi.org/10.1016/j.asr.2024.09.008. [Online]. Available: https://www.sciencedirect.com/science/article/pii/S0273117724009281.

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 cummulative 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