

Alec A. Reed

CONTACT INFORMATION

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EDUCATION

Department of Computer Science, University of Colorado Boulder

Doctor of Philosophy with Prof. Christoffer Heckman

May 2025 (Expected)

Department of Electrical and Computer Engineering, University of Washington

Master of Science, Electrical Engineering

May 2019

School of Engineering and Applied Science, Gonzaga University

Bachelors of Science, Electrical Engineering

May 2017

PROFESSIONAL APPOINTMENTS

Pattern Labs

June 2023–September 2023

Research Intern: Applied cutting edge lidar-camera fusion framework on real mobile platform for high accuracy object detection. Reconstructed sensor transform tree and wrote complete lidar to camera extrinsics calibration package.

The Boeing Company

June 2017–June 2021

Network Design Engineer: Designed airplane Ethernet and CANbus network communication protocols for new airplane. One of 3 Boeing CANbus subject matter experts. Lead the Research and implementation of Ethernet corruption detection framework (patent granted).

The Boeing Company

Electromagnetic Effects Intern

May 2016–September 2016

Google Scholar page.

PEER-REVIEWED CONFERENCE PROCEEDINGS

Reed A, Crowe B, Achey L, Heckman C (2024). Rapid Scene Exploration via Generative 3D Occupancy Prediction. *In Preperation*. 8 Pages.

Reed A, Crowe B, Albin D, Achey L, Hayes B, Heckman C (2024). SceneSense: Diffusion Models for 3D Occupancy Synthesis from Partial Observation . 2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS). IEEE, 2024. 8 Pages.

Reed, A, Albin, D, Pasricha, A, Heckman, CR. (2023). Transformer-based Learning Models of Dynamical Systems for Robotic State Prediction. *Submitted and under review*. 8 Pages.

Reed, A., Heckman, CR. Looking Around Corners: Generative Methods in Terrain Extension. Robotics Science and System (RSS) Workshop on Inference and Decision Making for Autonomous Vehicles 2023. 4 Pages.

Reed A, Berger G, Sankaranarayanan S, Heckman CR. Verified Path Following Using Neural Control Lyapunov Functions. *Conference on Robot Learning (CoRL)*; 2022. 10 pages, acceptance rate: 39%.

AWARDS **Research Assistant Funding, NSF award #1932189** *January 2021 - Current*

Early Career Professional Development Fellowship *November 2021*
CU Boulder fellowship, \$1000 award to attend a top tier conference.

TALKS **Generative Occupancy Mapping: Applications for Generative AI in Robotics**
Boeing Research and Technology, June 2024

TEACHING ASSISTANT Fall 2021: CSCI 1300 "Introduction to Programming".

Spring 2024: CSCI 5301: "Advanced Robotics"

PATENT **Network Including Data Monitoring**
Patent Granted: 23 Sept, 2023
Patent No.: United States 11770328