

## Alec A. Reed

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### 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 3D generative Occupancy. *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 . *Submitted and under review*. 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.

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