Clare Lohrmann

PhD Student

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EDUCATION

University of Colorado, Boulder – Boulder, CO - *PhD Computer Science*

Expected May 2026

Advisors: Bradley Hayes and Alessandro Roncone

University of North Carolina, Wilmington – Wilmington, NC - *MS Data Science*

August 2018 - December 2019

The George Washington University – Washington, D.C. - *BS Computer Science*

August 2015 - May 2018

RESEARCH EXPERIENCE

University of Colorado, Boulder , Boulder, CO - *Graduate Research Assistant, Computer Science*

AUGUST 2020 - PRESENT

- Developed algorithmic approaches to emphasize predictability in human-robot collaboration, coordination, and teaming scenarios
- Ran multiple IRB-approved human-subjects studies, proving the effectiveness of pattern usage in human-robot coordination and teaming

The George Washington University, Washington, D.C. - *Undergraduate Research Assistant, Computer Science*

MAY 2016 - AUGUST 2016

- Assisted with the development of software applications in partnership with local adult literacy programs
- Developed natural-language processing algorithms for the generation of reading comprehension questions

PUBLICATIONS

2024 **Improving Robot Predictability via Trajectory Optimization Using a Virtual Reality Testbed**, *Clare Lohrmann, Ethan Berg, Bradley Hayes, Alessandro Roncone*, 7th International Workshop on Virtual, Augmented, and Mixed-Reality for Human-Robot Interactions (VAM-HRI), (Boulder, USA).

2024 **Generating Pattern-Based Conventions for Predictable Planning in Human-Robot Collaboration**, *Clare Lohrmann, Maria Stull, Alessandro Roncone, Bradley Hayes*, ACM Transactions on Human-Robot Interaction (THRI).

PROFESSIONAL EXPERIENCE

Envieta, Columbia, MD - *Intern, Post-Quantum Cryptography*
MAY 2017 - AUGUST 2017

- Wrote formal validation methods for multiple post-quantum cryptography algorithms, including Frodo and Crystals-Kyber

Pearson, Durham, NC - *Intern, Data Science*
MAY 2019 - AUGUST 2019

- Developed machine learning models in support of supply chain management teams to predict product over-ordering
- Provided model-based guidance to supply-chain analysts, resulting in seven-figure savings for the North American Higher Education division

GE-Hitachi Nuclear, Wilmington, NC - *Intern, Data Science*
JANUARY 2019 - MAY 2019, AUGUST 2019 - DECEMBER 2019

- Created machine learning models in tandem with other graduate students in support of long time horizon supply chain management
- Developed robust parts-usage predictions for thousands of unique nuclear facility components

Blackhorse Solutions, Herndon, VA and Denver, CO - *Data Scientist*
JANUARY 2020 - OCTOBER 2021

- Performed internal research and development work to expand the utility of existing persona management software
- Developed machine learning models in the domains of natural language processing, text generation, text modification, text classification, as well as audio classification

MENTORED STUDENTS

Ethan Berg, October 2023 to present
Calvin Ferraro, Fall 2022 to present
Imaani Razzak, October 2023 to May 2024