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