

Mariah Bradford

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Education

Colorado State University, Ph.D.

Expected Fall 2026

Major: Computer Science

Colorado State University, M.S.

Expected Fall 2024

Major: Computer Science

Colorado State University, B.S.

2022

Major: Computer Science

Colorado State University, B.S.

2022

Major: Psychology

Publications

Yifan Zhu, Hannah VanderHoeven, Kenneth Lai, **Mariah Bradford**, Christopher Tam, Ibrahim Khebour, Richard Brutti, Nikhil Krishnaswamy, and James Pustejovsky. 2024. Modeling Theory of Mind in Multimodal HCI. In International Conference on Human-Computer Interaction, 2024. Springer, 205–225.

Videep Venkatesha, Abhijnan Nath, Ibrahim Khebour, Avyakta Chelle, **Mariah Bradford**, Jingxuan Tu, James Pustejovsky, Nathaniel Blanchard, and Nikhil Krishnaswamy. 2024. Propositional Extraction from Natural Speech in Small Group Collaborative Tasks. Educational Data Mining Conference (2024).

Hannah VanderHoeven, **Mariah Bradford**, Changsoo Jung, Ibrahim Khebour, Kenneth Lai, James Pustejovsky, Nikhil Krishnaswamy, and Nathaniel Blanchard. 2024. Multimodal design for interactive collaborative problem-solving support. In International Conference on Human-Computer Interaction, 2024. Springer, 60–80.

Corbyn Terpstra, Ibrahim Khebour, **Mariah Bradford**, Brett Wisniewski, Nikhil Krishnaswamy, and Nathaniel Blanchard. 2023. How Good is Automatic Segmentation as a Multimodal Discourse Annotation Aid? In Proceedings of the 19th Joint ACL-ISO Workshop on Interoperable Semantics (ISA-19), 2023. 75–81.

Ethan Seefried, Changsoo Jung, Jack Fitzgerald, **Mariah Bradford**, Trevor Chartier, and Nathaniel Blanchard. 2024. Balancing Quality and Quantity: The Impact of Synthetic Data on Smoke Detection Accuracy in Computer Vision. In Synthetic Data for Computer Vision Workshop@ CVPR 2024, 2024.

Ethan Seefried, **Mariah Bradford**, Swagatalaxmi Aich, Caspian Siebert, Nikhil Krishnaswamy, and Nathaniel Blanchard. 2024. Learning Foreign Language Vocabulary Through Task-Based Virtual Reality Immersion. In International Conference on Human-Computer Interaction, 2024. Springer, 203–213.

Ibrahim Khalil Khebour, Kenneth Lai, **Mariah Bradford**, Yifan Zhu, Richard A Brutti, Christopher Tam, Jingxuan Tu, Benjamin A Ibarra, Nathaniel Blanchard, Nikhil Krishnaswamy, and others. 2024. Common Ground Tracking in Multimodal Dialogue. In Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024), 2024. 3587–3602.

Ibrahim Khebour, Richard Brutti, Indrani Dey, Rachel Dickler, Kelsey Sikes, Kenneth Lai, **Mariah Bradford**, Brittany Cates, Paige Hansen, Changsoo Jung, and others. 2024. When Text and Speech are Not Enough: A Multimodal Dataset of Collaboration in a Situated Task. Journal of Open Humanities Data 10, 1 (2024).

Mariah Bradford, Ibrahim Khebour, Nathaniel Blanchard, and Nikhil Krishnaswamy. 2023. Automatic detection of collaborative states in small groups using multimodal features. In International Conference on Artificial Intelligence in Education, 2023. Springer, 767–773.

Mariah Bradford, Paige Hansen, Kenneth Lai, Richard Brutti, Rachel Dickler, Leanne Hirshfield, James Pustejovsky, Nathaniel Blanchard, and Nikhil Krishnaswamy. 2022. Challenges and opportunities in annotating a multimodal collaborative problem-solving task. In Interdisciplinary Approaches to Getting AI Experts and Education Stakeholders Talking Workshop, AIED, 2022.

Mariah Bradford, Paige Hansen, J Beveridge Ross, Nikhil Krishnaswamy, and Nathaniel Blanchard. 2022. A deep dive into microphone hardware for recording collaborative group work. In Educational Data Mining Conference, 2022.

Iliana Castillon, Videep Venkatesha, Hannah VanderHoeven, **Mariah Bradford**, Nikhil Krishnaswamy, and Nathaniel Blanchard. 2022. Multimodal features for group dynamic-aware agents. In Interdisciplinary Approaches to Getting AI Experts and Education Stakeholders Talking Workshop at AIED. International AIED Society, 2022.

Experience

Graduate Research Assistant, *Colorado State University*

2021 - Current

- Modeled behavior and gained insights from language features
- Developed, collected, and analyzed human-subject datasets
- Developed and demonstrated live AI/ML applications
- Published 12 papers in peer-reviewed conferences and journals
- Worked with government-funded grants (NSF and DARPA)
- Attended AI/ML conferences and presented work

Honors & Awards

Rising Star Award at Colorado State University

Collecting Classroom Data for Multimodal Detection of Key CPS Indicators

Funded \$2,500

Key Projects

The U.S. National Science Foundation (**NSF**) AI Institute for Student-AI Teaming (**iSAT**)

The Defense Advanced Research Projects Agency (**DARPA**) Friction for Accountability in Conversational Transactions (**FACT**) Artificial Intelligence Exploration Opportunity

Service

Program Committee, LREC-COLING 2024

Program Committee, AIED 2023