SAMUEL WESTBY

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EDUCATION

PhD Northeastern University, *Network Science* Sep 2020 – Aug 2025
Dissertation: "The Future of Teamwork"
Advisor: Christoph Riedl

BS University of Wisconsin-Madison Sep 2016 – Dec 2019
BS *Mathematics*, **BS** *Psychology* with Honors
Minored in *Computer Science*

RESEARCH EXPERIENCE

Research Assistant Sep 2020 - Present
Northeastern University, *Boston, MA*
Advisor: Christoph Riedl

- Combining mathematics, computer science, and social science to model group behavior. These models inform applications for human-AI teams such as improving collective intelligence, reducing bias, and measuring theory of mind.

Undergraduate Research Assistant Sep 2018 – Dec 2019
Center for Healthy Minds, *Madison, WI*
Advisor: Daniel Grupe

- Wrangled and visualized heart rate, sleep, and activity data from a fleet of Fitbits (numpy, pandas, matplotlib, bokeh)

Undergraduate Research Assistant Sep 2018 – Dec 2019
Austerweil Lab, *Madison, WI*
Advisor: Joseph Austerweil

- Attempted to predict movie box office revenues with recurrent neural networks and Hawkes Processes using Reddit activity (keras, pandas, numpy).
- Created a pipeline to aid in the creation and validation of human mobility datasets (opencv, pandas, numpy, https://github.com/samwestby/Pedestrian-Tracking)

TEACHING EXPERIENCE

University of Wisconsin, *Madison, WI* Sep 2019 – Dec 2019
Co-Instructor, Counseling Psychology

- I co-instructed *The Wisconsin Experience Seminar*, a seminar for first-year students which serves as an extended introduction to UW. Each week we prepared lessons and activities for a class of 20 students following a flexible curriculum design.

PUBLICATIONS

List your publications in reverse chronological order. Use an acceptable reference format commonly used in your field. Group your publications into different categories if you have a sufficient number to do so.

Works in Preparation

Westby, S., Ramakrishnana, R., Pandey, A., Riedl, R., and Borkin, M., "Visualizing Talk Time in Online Video Conferencing." – We extend current conversation visualization research by implementing a real-time visualization of speaking time, displayed for members of a Zoom meeting. This visualization creates more equitable speaking times by creating awareness of how much each person has spoken. Previous research has not explored how this tool impacts the everyday worker, likely due to technological limitations. With advances in the Zoom SDK, we can explore this impact.

Westby, S., Yang, Z., Radke, R., Foucault-Welles, B., Riedl, R., "Conditions for Effective Human-AI Teaming: Information and Timing." – With the rise of AI assistants, the potential for teamwork has expanded. One area often ignored is the environmental effects of an effective AI intervention. Using a communications approach, we learn what environmental factors affect a team's receptiveness to AI intervention.

Conference Papers in Review

Westby, S. and Riedl, R., "Collective Intelligence in Human-AI Teams: A Bayesian Theory of Mind Approach," *Proceedings of the Thirty-Seventh AAAI Conference on Artificial Intelligence*, Feb. 7-14, 2023 [arxiv link]

Extended Abstracts in Review

Westby, S. and Riedl, R., "Collective Intelligence in Human-Agent Teams: A Bayesian Theory of Mind Approach," *ACM Collective Intelligence Conference*, Oct. 20-21, 2022

COMMUNITY SERVICE

Data Scientist June 2022 – Present
Cambridge School Volunteers, *Cambridge, MA*

- Organize historical volunteer data and create improvement in data collection
- Analyze historical volunteer data to improve volunteer recruitment and management

Assistant Sep 2020 – Jan 2021
Fort Atkinson Food Pantry, *Fort Atkinson, WI*

- Reorganized the warehouse for more efficient storage and access of goods
- Supervised a team of undergraduates fundraising for the food pantry

HONORS AND AWARDS

L & S Honors Summer Research Grant 2019

$3000 awarded for promising undergraduate research

SKILLS AND INTERESTS

Technical: Python (pandas, numpy, tensorflow, matplotlib, networkx), Java, C#, Git, BASH
Interests: Running, data science for social good