Geoff Musick

Curriculum Vitae

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Dissertation Overview

My dissertation research focuses on facilitating teammate **team mental models** (e.g., attitudes, preferences, tendencies) on **temporary teams** with technology. Specifically this involves the conceptualization, development, and research of a new form of recommender system, an **information-sharing recommender system**. As a whole my dissertation contributes an understanding of how such a system might influence temporary team outcomes, differences in disclosure behavior depending on individual differences and context, and perceptions of the system (e.g., privacy concerns, satisfaction).

Education

2019–2022 **PhD, Human Centered Computing**, *GPA: 4.00*, *Clemson University, Clemson, South Carolina*.
Advisor: **Nathan McNeese**

2016 **M. Ed, Instructional Practice**, *GPA: 4.0*, *Lipscomb University University, Nashville, Tennessee*.

2013 **BS Biochemistry Applied**, *GPA: 3.76*, *Lipscomb University, Nashville, Tennessee*.

Work Experience

2020–Present **Clemson University** Graduate Research Assistant, **Team Research Analytics in Computational Environments (TRACE)**. PhD student researching information-sharing recommender systems in the context of temporary teams.

2019–2020 **Clemson University** Graduate Teaching Assistant. Lead TA in CPSC 4911 - Seminar in Professional Issues II Lab.

2017–Present **Osmosis Games** Founder and developer. Created educational video games that facilitated authentic, digital learning experiences for secondary science students.

2015–2017 **Lipscomb Academy** Head Cross Country Coach. Coached the high school boys cross country team. Managed budgets, schedules, and events for both middle and high school boys/girls programs.

2014–2017 **Lipscomb Academy** Science Teacher. Subjects taught: Physics, AP Biology, and Chemistry. Wrote and received multiple grants.

2011 **Vanderbilt University** Undergraduate Research Assistant, **Vanderbilt Institute of Nanoscale Science and Engineering (VINSE)**. Researched creating a junction between single layer graphene and single layer MoS_2.

Funding and Awards

2021–Present NSF/NRT **Technology-Human Integrated Knowledge Education and Research** Fellow

2011 **Best Poster Award**, "Creating a junction between single layer graphene and single layer MoS_2," TN-SCORE REU

Research Interests

Teamwork Recommender Systems, Human-Centered Artificial Intelligence, Human-Agent Teamwork, Computer-Supported Cooperative Work

Skills

Programming Python, C#, C++, R

Tools Tensorflow, Tensorforce, GitHub, Unity, Tableau, Qualitrics, Axure, Gimp

Research Quantitative Analysis, Qualitative Analysis, Interviews, Experiment Design

Relevant Coursework

- Machine Learning
- The Science of Teamwork and Technology
- Measurement and Evaluation of Human Centered Computing Systems
- Research Design and Quantitative Methods II
- Collaboration and Teamwork in Manufacturing Systems
- Fundamentals of HCC
- Data Visualization
- Software Development Methodology

Publications

Journal Articles

[J.4] **Musick, G.**, O'Neill, T., Schelble, B., McNeese, N., & Henke, J. (2021). What Happens When Humans Believe Their Teammate is an AI? An Investigation into Humans Teaming with Autonomy. *Computers in Human Behavior*, 122, 106852. https://doi.org/10.1016/j.chb.2021.106852

[J.3] **Musick, G.**, Freeman, G., McNeese, N. (2021). Gaming as Family Time: Digital Game Co-play in Modern Parent-Child Relationships. *Proceedings of the ACM on Human-Computer Interaction*, 5(CHI PLAY), 1-25. https://doi.org/10.1145/3474678

[J.2] **Musick, G.**, Zhang, R., McNeese, N., Freeman, G., & Hridi, A. (2021). Leveling Up Teamwork in Esports: Understanding Team Cognition in a Dynamic Virtual Environment. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), 1-30. https://doi.org/10.1145/3432945

[J.1] Zhang, R., McNeese, N., Freeman, G., & **Musick, G.** (2021). "An Ideal Human": Expectations of AI Teammates in Human-AI Teaming. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW3), 1-25. https://doi.org/10.1145/3432945

Conference Papers

[C.2] Rudolph, B., **Musick, G.**, Wiitablake, L., Lazar, K. B., Mobley, C., Boyer, D. M., Moysey, S., Robb, A., & Babu, S. V. (2020). Investigating the Effects of Display Fidelity of Popular Head-Mounted Displays on Spatial Updating and Learning in Virtual Reality. In *International Symposium on Visual Computing* (pp. 666-679). Springer, Cham. https://doi.org/10.1007/978-3-030-64556-4_52

[C.1] **Musick G.**, Maloney D., Flathmann, C., McNeese, N., & Walton, J. (2020). Differentiated Instruction further Realized through Teacher-Agent Teaming. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, (Vol. 64, No. 1, pp. 1318-1322). Sage CA: Los Angeles, CA: SAGE Publications. https://doi.org/10.1177/1071181320641315

Research Posters

[P.1] **Musick, G.**, Cioffi, R., Cao, Y., Hong, T., and Xu, Y. (2011). Creating a junction between single layer graphene and single layer MoS_2. *National NSF EPSCoR*, October 2011.

Under Review

[U.4] **Musick G.**, Gilman, E., Duan, W., McNeese, N., Knijnenburg, B., & O'Neill, T. (2022). Knowing Unknown Teammates: Exploring Anonymity and Explanations in a Teammate Information-Sharing Recommender System. In *Proceedings of the ACM on Human-Computer Interaction*, (CSCW).

[U.3] Najafian, S., **Musick G.**, Knijnenburg, B., & Tintarev, N. (2022). How do People Make Decisions in Disclosing Personal Information in Tourism Group Recommendations in Competitive versus Cooperative Conditions?. *User Modeling and User-Adapted Interaction.*

[U.2] **Musick G.**, Schelble, B., Mallick, R., & McNeese, N. (2022). Selevtive Sharing is Caring: Toward the Design of a Collaborative Tool to Facilitate Team Sharing. In *Proceedings of the Annual Hawaii International Conference on System Sciences.*

[U.1] Schelble, B., Flathmann, C., **Musick G.**, McNeese, N., & Freeman, G. (2022). I See You: Examining the Role of Spatial Information in Human-Agent Teams. In *Proceedings of the ACM on Human-Computer Interaction*, (CSCW).

Teaching Experience

Courses Taught
Lab TA for CPSC 1111: Introduction to Programming in C (Spring 2019)
Lab TA for CPSC 4911: Seminar in Professional Issues II (Fall 2019, Spring 2020, & Fall 2020); Capstone (Spring 2019)
High School Science Teacher (2014-2017)

Professional Activities

Reviewing
Journals
Human Factors: The Journal of the Human Factors and Ergonomics Society, since 2021
Multimedia Tools and Applications, since 2021
Topics in Cognitive Science, since 2021
Computer Supported Cooperative Work (CSCW), since 2021
Computers in Human Behavior, since 2022
Conferences
Military Health System Research Symposium (MHSRS), since 2020