Morgan Byers

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Education

Ph.D. in Computer Science August 2021 - ongoing

University of Colorado - Boulder

Bachelor of Science in Computer Science and Mathematics August 2017 - May 2021

Texas State University

Summa Cum Laude | Honors Thesis: Topological Data Analysis for Anxiety Detection in Text

Selected Publications

Journal Articles

G. Gharooni-Fard, **M. Byers**, V. Deshmukh et al., "A Computational Topology-based Spatiotemporal Analysis Technique for Honeybee Aggregation." NPJ Complexity 1, 3 (2024). https://doi.org/10.1038/s44260-024-00003-1

M. Byers, M. Trahan, E. Nason, C. Eigege, N. Moore, M. Washburn, V. Metsis. "Detecting Intensity of Anxiety in Language of Student Veterans with Social Anxiety Using Text Analysis," Journal of Technology in Human Services, pp. 1 – 21, March 2023. [Online] available: https://www.tandfonline.com/doi/pdf/10.1080/15228835.2022.2163452

Conference Papers

M. Byers, L. Hinkle, V. Metsis, "Topological Data Analysis of Time-Series as an Input Embedding for Deep Learning Models," in The 17th International Conference on Artificial Intelligence Applications and Innovations, Greece, 2022.

Selected Presentations

Conference Talks

M. Byers, E. Garling, E. Bradley, K. A. Gibbs, J. D. Meiss, "The Spatiotemporal Dynamics of *Proteus Mirabilis* Swarming" in SIAM Conference on Applications of Dynamical Systems (DS25), Denver, CO, 2025.

M. Byers, B. Kirkpatrick, N. Skillin, E. Bradley, "Topological Data Analysis of Myoblast Self-Assembly" in SIAM Conference on Applications of Dynamical Systems (DS23), Portland, OR, 2023.

Poster Presentations

M. Byers, J. Chittidi, E. Bradley, M. MacGregor, J. D. Meiss, "Computational Topology Techniques for Detecting Exoplanet Signatures" in Dynamics Days 2025, Denver, CO, 2025.

M. Byers, Z. Kirkpatrick, N. Skillin, L. Bradley, J. Meiss, "Topological Data Analysis of Myoblast Self-Assembly" in Dynamics Days 2023, virtual, 2023.

Teaching

CSCI 2270: Data Structures. Instructor of Record (3 semesters), TA (1 semester)

CSCI 2275: Programming and Data Structures. TA (1 semester)

CSCI 1300: Starting Computing. TA (3 semesters)

Service

Center for Teaching and Learning (CTL) Lead TA Fall 2024 - Spring 2025

Pedagogy Committee Student Representative Spring 2025 - ongoing

Awards

Computer Science Departmental Service Award Spring 2025

Center for Teaching and Learning Best Should Teach Silver Award Spring 2025