

Cassie Micucci | Curriculum Vitae

📞 931 625 0938 • ✉ cputman@vols.utk.edu • 🌐 www.cassiemicucci.com

Research Interests

- Machine Learning, Data Mining, Data Visualization
- Computational Statistics, Mathematics of Data Science
- Applications in Neuroscience, Materials, Chemistry, and Biochemistry

Education

- **University of Tennessee** **Knoxville, TN**
Ph.D. in Mathematics, M.S. in Statistics *2015-2020*
Advisor: Professor Vasileios Maroulas
- **Tennessee Technological University** **Cookeville, TN**
B.S. in Mathematics, Minor in Music, magna cum laude *2008-2012*

Professional Experience

- **University of Tennessee, Knoxville**
Graduate Research Assistant *August 2017-present*
- **U.S. Army Research Laboratory**
Human Research & Engineering Directorate
Graduate Research Assistant *May 2018- August 2018*
- **University of Tennessee, Knoxville**
Graduate Teaching Assistant/Associate
MATH 115, 119, 125 *August 2015-July 2017*
- **Henderson County Chamber of Commerce**
Project Manager, Events & Finance *February 2014-July 2015*

Awards and Honors

- Arts & Sciences Nominee, Jimmy & Ileen Cheek Graduate Student Medal of Excellence 2019
- Summer Departmental Fellowship 2019
- Travel Grant for AMS Sectional Meeting 2019
- Graduate Finalist, Army Research Laboratory Summer Student Symposium 2018
- Travel Award for Women in Statistics and Data Science Conference 2018
- UTK Chancellor's Fellowship 2016-2018
- Otis L. Floyd Scholarship (Tennessee Board of Regents) 2008-2012
- Lillie Stonecipher Scholarship (TTU) 2012
- University Academic Scholarship (TTU) 2012
- National Merit Scholar 2008

Publications

- Farzana Nasrin, **Cassie Micucci**, and Vasileios Maroulas *Estimation of Posterior Cardinality and Intensity Using Bayesian Framework with Persistent Homology* (In Preparation)
- Jacob Townsend, **Cassie Micucci**, John H. Hymel, Vasileios Maroulas, and Konstantinos D. Vogiatzis *Representation of Molecular Structures with Persistent Homology leads to the Discovery of Molecular Groups with Enhanced CO₂ Binding* (Submitted to Journal of the American Chemical Society)
- Vasileios Maroulas, **Cassie Micucci**, and Adam Spannaus *A Stable Cardinality Distance for Topological Classification* (To Appear in Advances in Data Analysis and Classification)

Talks

- **Invited Talk**, AMS Spring Southeastern Sectional Meeting, Auburn University 2019
- Oral Presentation & Poster, Women in Statistics & Data Science Conference, Cincinnati 2018
- Oral Presentation, Summer Student Symposium, Army Research Laboratory 2018
- Oral Presentation, Computational & Applied Mathematics Seminar, University of Tennessee 2018

Professional Organizations & Leadership

- American Statistical Association, **Chapter President 2018-Present**
- Society for Industrial and Applied Mathematics
- American Mathematical Society
- Association for Women in Mathematics

Specialized Skills & Training

- R Programming (Selected packages: caret, randomForest, nnet, e1071, glmnet, TDA, parallel)
- Shiny App Development
- Matlab Programming
- JMP
- LaTeX
- Excel
- SQL

Selected Graduate Coursework

- Design of Experiments
- Multivariate & Data Mining Techniques
- Data Mining Methods & Applications
- Stochastic Modeling
- Mathematical Statistics I & II
- Optimization