Eva Murphy

213 Crooked Cedar Way, Pendleton, SC, 20670
803-944-7265 — nagy@clemson.edu
https://evamurphy100.github.io/

Professional Summary

My research interests are statistical modeling, spatio-temporal modeling, deep learning and data fusion with a focus on environmental data. My experience includes using R-programing language to perform exploratory analysis and statistical inference for atmospheric data, building a statistical model that is flexible enough to accommodate the linear-circular nature of wind speed and wind direction, and is capable to model the complex dependence structure of the two variables. I've researched spatio-temporal methods and machine learning techniques to model the wind vector in space and time.

Education

Clemson University — Clemson, SC
Ph.D. in Mathematical and Statistical Sciences — Expected August 2023

Relevant graduate coursework

- General Linear Hypothesis
- Statistical Inference
- Time Series Analysis
- Intro to Bayesian Statistics
- Matrix Analysis
- Stochastic Processes

Short courses

- *Spatial Statistical Learning, International Statistical Institute*
- *Gaussian Process Modeling, Design and Optimization, American Statistical Association*

University of West Florida — Pensacola, FL - online
M.S. in Mathematical Sciences, — April 2016

Master project

- Develop a mathematical model that can be used to forecast flash foods in urban areas.

Babes - Bolyai University — Cluj-Napoca, Romania
B.S in Mathematics — June, 2006

Research Experience

Modeling of wind speed and wind direction through a conditional approach

- Develop a directional wind speed distribution using Weibull distribution in such way that the parameters of the distribution depend on wind direction.

- Construct the dependence of the parameters from the Weibull distribution on wind direction using harmonic regression via weighted least squares.
- Use climate model outputs to analyze the changes in the joint distribution of wind speed and wind direction from present to future climate scenarios.

Participations and Awards

Chair of the Statistical Analyzes for Environmental Monitoring — Contributed Papers section at the Joint Statistical Meeting, August 2022.

Award: Best Talk Award at the SC-ASA Palmetto Symposium, April 2022.

Paper review: I participated as a reviewer for the 11th International Conference on Climate Informatics and reviewed three extended abstracts, March 2022.

Certificates: Completion of Clemson Thinks^2 Graduate Teaching Institute, Fall of 2021.

STRIVE for MORE conference where I was a mentor in the Near-to-Peer Mentoring Session, September 2020 and 2021.

Presentations and Posters

Joint modeling of wind speed and wind direction through a conditional approach presented at:

- Joint Statistical Meeting, August 2022.
- 5th International Conference on Econometrics and Statistics, June 2022.
- Climate Informatics, May 2022.
- SC-ASA Palmetto Symposium, April 2022.
- Math For All Satellite Conference at Clemson University, February 2022.

Modeling of Wind Speed and Wind Direction presented at the Graduate Student Network Conference, NISS, May 2022.

Statistical framework for studying the spatio-temporal variation of wind speed and wind direction - Literature Review, presented at the Graduate Student Network Conference, NISS, June 2021

Teaching Experience

Graduate Teacher of Record (GTR) Clemson University, 2018 - 2022

- Responsibilities: to instruct Precalculus, Business Calculus I, Business Calculus II, Calculus of Single Variable, tutor students taking the mathematics classes I taught, keep online records of attendance and student performance and attend professional meetings.

Teacher of Mathematics Mid-Carolina High School, 2006 - 2011, 2012 - 2018
Wade Hampton High School, 2011-2012

- Responsibilities: to instruct Applied Algebra, Algebra 2, Algebra 2-Honors, Algebra 3/Trigonometry, A.P. Calculus AB, Geometry, Intermediate Statistics and Probability, organize course matters and make certain the content is accurately taught, create and execute project work plans and revise as appropriate to meet changing needs and requirements, manage parent and teacher meetings on a usual basis in support of make certain that parents recognize everything regarding their child's growth, supervise and tutor students taking various mathematics classes ranging from finite math to calculus, teach study skills and test taking skills, keep online records of attendance and student performance, attend professional meetings, educational conferences, and teacher training workshops in order to maintain and improve professional competence, perform administrative duties such as assisting in school libraries, and hall, cafeteria and parking lot monitoring.

Adjunct Instructor of Mathematics Piedmont Technical College 2015 - 2020
Midlands Technical College, 2016 - 2018

- Responsibilities: to instruct on campus and online entry level mathematics and statistics course, keep online records of attendance and student performance, attend professional meetings, educational conferences, and teacher training workshops in order to maintain and improve professional competence.