ZHE WANG

wangz@denison.edu

Burton Morgan 410, Denison University, 100 West College Street, Granville, Ohio 43023

EDUCATION

University of Connecticut, Storrs, CT
Department of Statistics

Ph.D. in Statistics *August 2020*
Advisor: Dr. Nitis Mukhopadhyay
Thesis: Sequential Estimation Methodologies with Observations Gathered in Groups
M.S. in Statistics *May 2018*

Beijing Normal University, Beijing, China
School of Mathematical Sciences
B.S. in Statistics *June 2016*

TEACHING EXPERIENCE

Denison University, Granville, OH
Data Analytics

Assistant Professor *August 2020*
DA 101: Introduction to Data Analytics

MATH/DA 220: Applied Statistics

University of Connecticut, Storrs, CT
Department of Statistics

Primary Instructor
- STAT 3025: Statistical Method (Prereq: Calculus I, II) *Fall 2018 , Summer, Fall 2019*
    - Textbook: Jay L. Devore, *Probability and Statistics for Engineering and the Sciences* (*edition 8*), Cengage Learning.
    - Average SET score: 5/5(Fall 2018), 5/5(Summer 2019). Department average SET score: 3.3/5.
    - Commended by the Office of the Provost.
- STAT 3445: Mathematical Statistics(Two Sections) *Spring 2019, Spring 2020*
    - Textbook: Wackerly, Dennis, William Mendenhall, and Richard L. Scheaffer. *Mathematical statistics with applications* (*edition 7*), Cengage Learning.
    - Taught 40 students for each section.
    - Average SET score: 4/5. Department Average SET score: 3.4/5.

Guest Lecturer
- STAT 5215: Statistical Consulting (Graduate level) *Fall 2019*

- Title: Synergy, Efficacy, and Best Dose Combination of Morphine and Marijuana: a flick Tail Study.
- STAT 5655: Epidemiology (Graduate level) *Fall 2019*
    - Title: Secondary Analyses on The National Health and Nutrition Examnination Survey (NHANES).

Mentor *Fall 2018- Spring 2020*

- Led honor conversion of the courses and mentored independent study on ANOVA and non-parametric methods.
- Adapted syllabi content in response to feedbacks from students.

Teaching Assistant

- STAT 1100: Elementary Concepts of Statistics *Summer, Fall 2018*
    - Held discussion sessions on course material. Increased students' confidence in Minitab operation.

Tutor *Fall 2018*

- Tutored all undergraduate level statistics courses and provided R, SAS and Minitab tutorials.

Department of Physics

Physics Laboratory Teaching Assistant

- PHYS 1201: General Physics I *Fall 2017, Spring 2018*
- PHYS 1202: General Physics II *Spring 2018*
    - Prepared and facilitated the pre-lab tutorial. Supervised three-hour laboratory periods. Evaluated students' performance and graded laboratory reports.

PROJECT

Evaluation of Ramp Detection Methods for Wind Energy Projects Off the Coast of Southern New England.

Research Assistant

- Sponsor: Eversource Inc.
- Investigator: Dr. Malaquias Pena Mendez, *Department of Civil and Environmental Engineering, University of Connecticut.*
- Budget Period: January 2020 - August 2020.

RESEARCH EXPERIENCE

University of Connecticut, Storrs, CT

Graduate Researcher *Feburary 2018-present*

- Constructed a new group purely sequential sampling method to obtain minimum risk point estimation and fixed-width confidence interval for normally distributed data. Second order asymptotic properties are proved. A breast cancer dataset was used for illustration.
- Applied Gini Mean Difference(GMD) and Mean Absolute Difference(MAD) in the purely sequential procedure on two-sample comparison. Income datasets from the Office of Foreign Labor Certification(OFLC) were used for illustration.

- Established the sequential sampling procedure to obtain the minimum risk point estimation of a parametric function. Asymptotic first- and second-order results are shown. Requirements on the pilot sample size are calculated for different situations.
- Explored bootstrap algorithm and developed the enhanced bootstrap method. Used two-stage procedure to determine the minimum sample size for specific survey or experiment.
- Compared robust methods in univariate data analysis and multivariate linear regression. Applied GLM, LASSO, Bayesian LASSO, ridge regression, PCA, cluster analysis and MANOVA on different datasets.

WORK EXPERIENCE

Eversource Energy Center, Storrs, CT
Graduate Fellow *Summer 2020*

- Studied the relationship between wind speed and generated power for different turbines. Developed offline and online change point detection methods on wind speed data.

CT Convergence Institute at UConn Health Center, Farmington, CT
Research Assistant *Summer 2019*

- Used NHANES data to analyze potential relationship between moderate-vigorous physical activity (MVPA) and hemoglobin A1C level in Type 2 diabetic Americans.

SERVICES

UConn Eversource Energy Center, Storrs, CT
Consultant *March 2019 - present*

- Examined the goodness of storm outage forecasting of UConn Outage Prediction Model(OPM), which integrated high-resolution weather prediction with vegetation characteristics and other geographic data to predict the damages on the electric grid in New England area.

University of Connecticut, Storrs, CT
Consultant *January 2018 - Present*

- Offered free statistical consulting to faculty and graduate students on their research projects. Worked on the web-based course registration system to meet University's demand.

New England Statistics Symposium(NESS), Storrs, CT
Student Assistant *May 2018, May 2019*

- Assisted speakers with presentation lotistic and organized student posters.

Conference on Bayesian Modeling, Computation, and Applications, Storrs, CT
Volunteer *May 2018*

- Staffed the registration desk. Distributed pre-registration packets, conference proceedings and name tags, printed all requested materials.

PRESENTATIONS

UConn Sport Analytics Symposium, Storrs, CT
Workshop Instructor *October 2019*

- Gave intermediate level tutorial on baseball analytics with R. Topics including data visualization, basic model fitting, prediction and comparison of career trajectories.

The 36th Annual Quality and Productivity Research Conference, Washington, D.C

Invited Speaker, full length, conference funded   *June 2019*

- Title: Sequential Fixed-Width Confidence Intervals Estimation for the Mean of a Normal Population: Sampling in Group.

The 7th International Workshop in Sequential Methodologies, Binghamton, NY

Invited Speaker, full length, department funded   *June 2019*

- Title: How to Find the Minimum Risk Point Estimation of Treatment under Normality Assumption.

The 33rd New England Statistics Symposium, Storrs, CT

Contributed Poster   *May 2019*

- Title: Sequential Fixed-Width Confidence Interval Estimation: Sampling in Groups.

ADDITIONAL EXPERIENCE

UConn-Boehringer Ingelheim Biopharmaceutical Summer Academy

Participant   *August 2018*

- Studied clinical trial procedures and methods and finished data analysis competition on phase 3.
- Presented competition results and obtained the certificate of completion.

PUBLICATIONS

Published

- Mukhopadhyay, N., and **Wang, Z.**. (2019). A general theory of purely sequential minimum risk point estimation (MRPE) of a function of the mean in a normal distribution. *Sequential Analysis*, 38(4), 480-502.
- Mukhopadhyay, N. and **Wang, Z.**. (2020). Purely Sequential FWCI and MRPE Problems for the Mean of a Normal Population by Sampling in Groups with Illustrations Using Breast Cancer Data, *Sequential Analysis* 39: https://doi.org/10.1080/07474946.2020.1766893.

In Progress

- **Wang,Z.** and Pena, Malaquías. Offline and Online Ramp Events Detection Methods.
- Mukhopadhyay, N., Jun,H, and **Wang, Z.**. Second-Order Asymptotics for Comparing Treatment Means from Purely Sequential Estimation Strategies Under Possible Outlying Observations
- Mukhopadhyay, N., **Wang, Z.**. Generalized Sequential Methods for Sampling in Groups.

AWARD

Eversource Energy Center	Storrs, CT
Graduate Research Fellowship	2020
University of Connecticut	Storrs, CT
Doctoral Dissertation Fellowship	2019-2020
University of Connecticut Statistical Data Science Lab	Storrs, CT
Trainer's Award	2019
The 36th Annual Quality and Productivity Research Conference	Washington, D.C
Students Travel Scholarship	2019

University of Connecticut Storrs, CT
Pre-Doctoral Fellowship 2018, 2019, 2020

Beijing Normal University Beijing, China
First-class Scholarship for Academic Competition 2015

PROFESSIONAL MEMBERSHIPS

- American Statistical Association (ASA)
- Institute of Mathematical Statistics (IMS)
- New England Statistical Society (NESS)
- International Chinese Statistical Association (ICSA)

SKILLS

Programming	R, SAS
Tools	LaTeX, RMarkdown, G*Power, ScientificWorkPlace

EXTRACURRICULAR ACTIVITIES AND HOBBIES

Taught as a volunteer math teacher in Dandelion Middle School, a non-profit school for children of Chinese migrant workers in ruban-rural fringe in Beijing. Beijing, 2012-2013

Volunteered as a counselor in the Root 2013 Intercollegiate Summer English Camp. Taught English in middle schools in developing area. Weifang, 2013

Won second place in Intel Global Business Plan Competition. San Francisco, 2013

Editor of a monthly newsletter of Literary Club in Beijing Normal University. Published poems and prose in college journal. Beijing, 2013-2014

Member of UConn Pre-Vet club. Walked the dogs for senior people in community and helped wash the dogs for an affordable price. Storrs, 2017-2018

Music lover. Played accordion for 20 years and played the piano since high school. Participated as the accomplished pianist in chorus during high school.