

Bao-Anh Maddux

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(formerly Bao-Anh Dang)

📍 Winston-Salem State University,
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Winston-Salem, NC 27127 USA.

EDUCATION

Doctor of Philosophy | Statistics
University of Louisiana at Lafayette

Aug. 2017 - May 2022
Louisiana, USA

- Thesis title, *Statistical Intervals for Discrete Distributions: Hypergeometric and Negative Binomial*
- Advisor: Dr. Kalimuthu Krishnamoorthy

Master of Science | Statistics
University of Louisiana at Lafayette

Aug. 2017 - Dec 2020
Louisiana, USA

Bachelor of Science | Mathematics
Vietnam National University - University of Science

Aug. 2012 - May 2016
Ho Chi Minh City, Vietnam

- Honor program

WORK EXPERIENCE

Tenured-Track Assistant Professor
Winston-Salem State University

Aug. 2022 - Present
North Carolina, USA

- Probability and Statistics
 - *Course description:* An introduction to set theory and probability theory, a basic foundation in probability, random variables and their distributions, mathematical expectation, and sampling distributions.
 - *Semester:* FA 2022 (1 section), FA 2023 (1 section)
- Elementary Statistics
 - *Course description:* Descriptive statistics, elementary hypothesis testing, confidence intervals, introduction to correlation and regression.
 - *Semester:* FA 2022 (1 section), SP 2023 (2 sections), FA 2023 (2 sections), SP 2024 (2 sections), S1 2024 (1 section)
- Topics in Contemporary Mathematics
 - *Course description:* Basic algebraic concepts, sets, statistics, probability, mathematics of finance, and problem solving. Real-world applications are included throughout the course.
 - *Semester:* FA 2022 (2 sections), SP 2023 (1 section), S1 2023 (1 section), SP 2024 (1 section)

Graduate Teaching Assistant
University of Louisiana at Lafayette

Aug. 2017 - May 2022
Louisiana, USA

- Elementary Statistics
 - *Course description:* Descriptive statistics, probability, discrete distributions, continuous distributions, elementary hypothesis testing, confidence intervals, introduction to correlation and regression.
 - *Semester:* FA 2017 (1 section, *Teaching Assistant*), SP 2020 (2 sections, *Instructor*), FA 2020 (2 sections, *Instructor*), SP 2021 (1 section, *Instructor*), FA 2021 (2 sections, *Instructor*), SP 2022 (1 section, *Instructor*)
- Biometry

- *Course description:* The statistical analysis of biological data; methods include descriptive statistics and inferential statistics, prediction, survey design with the incorporation of statistical softwares.
- *Semester:* SP 2021 (1 section, *R Programming Instructor*)
- College Algebra
 - *Course description:* A functional approach to algebra that incorporates the use of appropriate technology. Emphasis will be placed on the study of functions, and their graphs, inequalities, and linear, quadratic, piece-wise defined, rational, polynomial, exponential, and logarithmic functions.
 - *Semester:* FA 2018 (1 section, *Instructor*), SP 2019 (1 section, *Instructor*), FA 2019 (1 section, *Instructor*), SP 2020 (1 section, *Instructor*)
- Calculus 3
 - *Course description:* Parametric equations and polar coordinates, vectors, functions of several variables, multiple integrations, and second-order differential equations.
 - *Semester:* SP 2018 (1 section, *Teaching Assistant*)

Data Analyst

Bacchusia-Jeux

May 2017 - Aug 2017

Paris, France

- Utilize the "Beautiful Soup" Python package to perform web scraping from competitor websites and product resource platforms, including Amazon. Employ advanced web scraping techniques to gather and extract relevant data for analysis.
- Leverage Amazon Web Services (AWS) to enhance inventory management within Python. Integrate AWS services seamlessly to optimize data storage, processing, and retrieval, thereby improving overall inventory tracking and management capabilities.

Data Analyst

WeeDigital (formerly AlephQuant Technologies)

Dec 2016 - June 2017

Ho Chi Minh City, Vietnam

- Use "beautifulsoup" package in Python to automatically download daily stock data from trading platforms.
- Conduct in-depth stock price analysis through the application of time series models like AR, MA, ARMA,... etc. to meticulously dissect and interpret stock price trends. Transform raw data into actionable insights that drive informed decision-making and guide strategic investments.
- Study theory of cryptocurrency, blockchain models and assisting in developing a new one

DEPARTMENTAL AND UNIVERSITY SERVICES

Academic Advisor

Fall 2023 - Present

Math & Stat Club, Department of Mathematics, Winston-Salem State University

Fall 2023 - Present

Co-advisor

- Assist in the organization of club activities; Facilitate academic and professional development opportunities; Foster a collaborative and enriching environment for students interested in mathematics and statistics.

Data Fluency Student Learning Outcome Committee, Winston-Salem State University

Fall 2023 - Present

Committee member

- Assist in the development of rubrics for new student learning outcome, Data Fluency and provide workshops across campus to facilitate the implementation process.

Faculty Senate at Winston-Salem State University

Fall 2023 - Present

Alternate representative

Academic Standards and Curriculum Committee at Winston-Salem State University

Spring 2023 - Present

Alternate representative

COMMUNITY SERVICES

North Central Region 5 Science and Engineering Fair Judge	Feb 17, 2024 Kernersville, NC
ACT Prep Sessions for Local High School Students Instructor	Jan 13, 2024
2023 Central Region Math Fair Judge	Feb 25, 2023 Asheboro, NC
ACT Prep Sessions for Local High School Students Instructor	Jan 21, 2023
Department of Defense Scholarship Program Applications evaluator	Jan 2023

OTHER PROFESSIONAL SERVICES AND MEMBERSHIP

Communications in Statistics - Simulation and Computation Journal Paper reviewer	May, 2023 - Present
Statistical Consultant	Nov 2022 - Jan 2023
<ul style="list-style-type: none"> Use statistical methods to assess the improvement in diabetes symptoms and lifestyle habits of patients taking part in a faith-based intervention at local churches. 	
Member of Eastern North American Region - International Biometric Society Member ID: 19855	2023 - Present
Member of American Statistical Association Member ID: 243973	2021 - Present
Member of American Mathematical Society Member ID: DNBNTA	2021 - Present

SCHOLARSHIP ACTIVITIES

The American Statistical Association (ASA) DataFest 2024 Mentor	April 5 - April 7, 2024
<ul style="list-style-type: none"> Provide guidance and support to WSSU students in a data competition wherein undergraduate and graduate students undertake the analysis of a substantial data set provided by a client. Students spent the weekend working with your team to analyze the data and provide insight to the client. The competition culminated with each team presenting their work and insights to a panel of judges in a short presentation. 	

PROFESSIONAL DEVELOPMENT ACTIVITIES

2024 ENAR Fostering Diversity in Biostatistics Workshop Attendee	Mar 10 - Mar 13, 2024 Baltimore, MD
ACUE Effective Online Teaching Practices: Cohort E Student	Fall 2023 - Spring 2024
CITI Faculty Learning Community Community member	Fall 2023 - Spring 2024
Quality Enhancement Plan Institute at Winston-Salem State University Attendee	Summer 2023
2023 Symposium on Data Science & Statistics Conference Attendee	May 23 - May 26, 2023 St. Louis, MO
2023 ENAR Fostering Diversity in Biostatistics Workshop Attendee	Mar 19 - Mar 22, 2023 Nashville, TN

GRANTS & AWARDS

RCC Faculty Adopter Award

Jan, 2024 - June, 2024

Center of Applied Data Science, WSSU

- Infuse Ethical and responsible usage of AI into one of my courses and quantitatively/qualitatively assessing the impact of their interventions.
- Amount: \$6,000

WSSU Faculty Adopter Research Award

Jan, 2023 - June, 2023

Center of Applied Data Science, WSSU

- Confidence Intervals for Negative Binomial Proportions: Two-Sample Problems
- Amount: \$4,000

Travel Grant

2015

Vietnam Institute for Advanced Study in Mathematics

- *Statistical Machine Learning* Summer School

Travel Grant

2015

Vietnam Institute for Advanced Study in Mathematics

- *Advanced Tools/Concrete Examples for Statistics* Mini Course

Travel Grant

2014

Vietnam Institute for Advanced Study in Mathematics

- *Probability Tools for Statistics* Mini Course

TALKS, SEMINARS & PRESENTATIONS

1. **ENAR 2024 Spring Meeting.** *Confidence Intervals for Negative Binomial Distributions: Two-sample Problems.* Contributed paper session in Methods in Categorical, Ordinal, Non-parametric, Non-linear Data. Baltimore, MD, 2024.
2. **Statistics Seminar.** *Confidence Intervals, Prediction Intervals and Tolerance Intervals for Negative Binomial Distributions..* University of Louisiana at Lafayette, LA, 2021.

RESEARCH PAPERS

1. **Dang, B-A., Krishnamoorthy, K. and Lv, S. (2020).** Confidence intervals for a population size based on capture-recapture data. *American Journal of Mathematical and Management Sciences.* [DOI](#)
2. **Dang, B-A. and Krishnamoorthy, K (2021).** Confidence Intervals, Prediction Intervals and Tolerance Intervals for Negative Binomial Distributions. *Statistical Papers.* [DOI](#).
3. **Maddux, B-A. and Krishnamoorthy, K (2023).** Confidence Intervals for Negative Binomial Distributions: Two-sample Problems. *under review.*

CERTIFICATIONS

Natural Language Processing in TensorFlow

Sep 14, 2023

Coursera

Convolutional Neural Networks in TensorFlow

Aug 10, 2023

Coursera

Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning

Aug 3, 2023

Coursera

Advanced Learning Algorithms

March 21, 2023

Coursera

Supervised Machine Learning: Regression and Classification

March 16, 2023

Coursera

SKILLS

Languages: Vietnamese (Native), English (bilingual)

Programming: R, Python, MATLAB, SAS, SQL

Document Creation: Microsoft Office Suite, LaTeX