Xeng Yang

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Objective

Seeking to enroll in a Statistics Ph.D. program, enrich my knowledge, and research about data analysis and clustering, statistical computing, machine learning, multivariate analysis, survival analysis and biostatistics.

Education

University of Nebraska - Lincoln *Expect May 2029*
PhD in Statistics

- **Coursework:** Statistical Method I, Mathematical Statistics, Statistical Computing Tools

Minnesota State University Mankato *May 2024*
MS in Mathematics and Statistics

- GPA: 3.89
- **Coursework:** Linear Models, Theory of Statistic, Statistical Computing

Experience

Graduate Teaching Assistant *Mankato, MN*
Aug 2021 – May 2024

Elementary Statistics

- Teaching sample data, visualizations for data, types of data, data collection, measurement of center and variation, basic approaches and computing probability, discrete and continuous probability, and statistical inference with one and two population parameters
- Making group work activities for students to engage and share ideas on how to attempt problems and produce solutions
- Introducing software R and assigning R labs for students to practice and understand statistical analysis
- Creating exams based on a diverse group of students' abilities through quizzes and in class participation activities

Precalculus

- Taught how to graph polynomial, rational, and trigonometric functions, solve system of equations and matrix, solve for coordinates, lengths, and angles for trigonometric functions
- Showed applications of Law of Sine and Cosine, complex numbers, and vectors
- Created exam reviews and Kahoot games to encourage students to work together, contribute, and learn from each other

Cub Food Associate *Duluth, MN*
July 2019 – July 2021

- Communicated and established teamwork with associates in the work environment
- Learned how to operate machine and the importance of company goals such as to serve customers with care, strategies on how to handle products, and loyalty

Math Tutor, AmeriCorps *Duluth, MN*
August 2017 – July 2019

- Enriched a diverse group of students in Grade 4 and 5 on their math foundation in group activities and discussed strategies on solving word problems
- Learned methods to how to deliver math materials to maximize students' learning experiences
- Helped students with their confidence and test anxiety and encouraged students to persevere with positive attitude

Projects and Research

Alternative Plan Paper -

Diabetes Health Indicator with Machine Learning Techniques

- Extensively researching on chronic health disease called "diabetes" and machine learning by reading literature reviews, articles, and research papers to have clear comprehensions on how to handle a large dataset of patients who are diagnosed with or without diabetes
- Understanding machine learning algorithms to produce visualizations and create adequate predictive models on a large dataset
- Creating efficient algorithms to split the large dataset into 0.80 train data and 0.20 test data to perform statistical methods, as well as build and select adequate models
- Performed k-mode and k-prototype clustering techniques to classification problem for more visualization methods since the data has both numerical and categorical variables

Edible Mushrooms Project -

- Researched on what characteristic features of mushrooms were edible through articles and research papers
- Used software R to perform k-mode and k-prototype clustering techniques and constructed scatter plots to see what size or length of its cap and stem are edible
- Plotted ROC curve accuracy for logistic regression model, decision tree, random forest, and performed cross-validation to see if models were over-fitted and McFadden's Goodness-of-Fit was used

Cardiovascular Disease Project

- Researched on what causes cardiovascular disease through articles and research papers
- Used software R to produce logistic model and odds ratio since the large data being a classification problem
- Worked on exploratory data analysis to have visualizations and saw that the data is well-balanced

Involvement Activities

DSU Data Analytics Competition *Brooking, SD*
Feb. 2023 – Mar. 2023

South Dakota State University

- Communicated with team to understand large data
- Established teamwork/collaboration to organize and clean data
- Led the team to find the problems and solutions by creating visualizations, building statistical models, and testing their accuracy

Data Derby Competition *Minneapolis,MN*
Feb. 2022-Apr.2022

Minnesota State I.T. Center of Excellence

- Promoted communication to the team
- Assessed team members skills to be effective for the competition
- Worked on organizing, cleaning, and analyzing the data using statistical methods and building models

Relevant Skills

- Program skills in R
- Program skills in SAS
- Communication
- Leadership
- Teamwork/Collaboration
- Critical Thinking
- Perseverance