Haoxin Xu

University of Nebraska-Lincoln

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EDUCATION

University of Nebraska-Lincoln   **August 2024 - Present**

Doctoral Student in Supply Chain Management and Analytics

Johns Hopkins University   **Washington, USA**

MS in Business Analytics and Risk Management   09/2022-08/25/2023

Main courses: Machine Learning, Operation Management, Python, Simulation, Data Analytics, Deep Learning

University of Connecticut   **Storrs, USA**

BA in Actuarial Science   08/2018-05/2022

Minor in Statistics

RESEARCH EXPERIENCE

Nassau Re-Insurance Public Data Case Study Research   12/2020-04/2021

- Conducted research on mortality differences across the United States using public data., identify strategies for life insurance companies, specifically creating state adjustment factors.
- Utilized R and various packages like caret, ggplot2, and leaflet for data processing and visualization.
- Created state-adjusted factors based on variable rankings weighted by p-values, and used these factors to estimate the average health of each state.
- Built a linear model using state adjustment factors as predictors and life expectancy as the response variable, achieved high model significance, and adjusted R-squared.

Methodologies:

- Statistical Analysis, Data Visualization, Geographic Information System (GIS), Weighted Ranking, Machine Learning, Hypothesis Testing, Geospatial Analysis

PROJECT EXPERIENCE(Selected)

Discover, Measure, and Mitigate Bias in Advertising

- Applied multidimensional subset scan (MDSS) to the dataset to identify groups exhibiting substantial predictive bias.
- Utilized the disparate impact metric to quantify bias within the identified subgroup, and employed the Reject Option Classifier (ROC) post-processing algorithm to mitigate bias.
- Utilized Random Forest classifier, techniques included Permutation Importance, Feature Importance, Shapley values, Partial Dependence Plots (PDPs), and a surrogate model to further explore the features and supplement the analysis.

Pharmaceutical Customer Review Rating Prediction

- Selecting two different approaches for building a classification model: one using traditional code with scikit-learn libraries and the other using PyCaret, a low-code approach for machine learning.
- Employed the AUC metric to assess classifier performance, aiming to achieve higher AUC scores, which indicate better predictive capabilities.
- Identified the best classifiers for both code-based (Gradient Boosting Classifier) and low-code (Support Vector Machine) approaches, ultimately achieving improved drug rating prediction accuracy.

Convolutional Neural Network with TensorFlow on Cats vs. Dogs Dataset

- Developed a convolutional neural network using TensorFlow for image classification on the Cats vs. Dogs dataset and implemented data preprocessing and augmentation techniques to enhance model robustness.

- Achieved improved accuracy through regularization, including data augmentation and dropout layers and Gained insights into addressing overfitting and improving model performance.

SKILLS

Technical: Proficient in MS Office, Python, R, Stata, SQL, VBA, Tableau, GAMS, etc.