Yeji Kim

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EDUCATION

Stony Brook University   Stony Brook, New York
M.S. in Applied Mathematics and Statistics (Statistics Track) | GPA: 3.56   *Expected December 2024*
Relevant Courses: Data Analysis | Introduction to Probability | Analytical Methods for Applied Mathematics and Statistics | Mathematical Statistics I | Fundamentals of Computing | Design and Analysis of Categorical Data | Regression Theory | Statistical Learning | Big Data Analysis | Simulation and Modeling

Stony Brook University (SUNY Korea)   Incheon, Republic of Korea
B.S. in Applied Mathematics and Statistics | GPA:3.75   *May 2023*
Relevant Courses: Probability Theory | Data Mining | Operations Research II: Stochastic Models | Statistical Laboratory

SKILLS

Programming Languages: JAVA, Python, R, and Matlab
Database: SQL
Spoken Languages: Korean (Fluent)

ACADEMIC PROJECTS

Department of Applied Mathematics and Statistics | Stony Brook University   Stony Brook, New York
Predicting the Water Status by random forest   *August 2022 – December 2022*
- Utilized Principal Component Analysis (PCA) to reduce the dimensionality of the dataset, enabling a more efficient analysis with Random Forest
- Developed a Python-based machine learning model to classify water status, enhancing predictive accuracy and providing actionable insights based on model results

Department of Applied Mathematics and Statistics | Stony Brook University   Stony Brook, New York
Regression Models   *August 2023 – December 2023*
- Implemented and evaluated Ordinary Least Squares (OLS), Ridge, and Lasso regression models using Mean Squared Error (MSE) for comparison, identifying overfitting issues and optimizing model performance
- Utilized Python for efficient data handling and analysis, ensuring high accuracy and computational efficiency in penalized regression modeling

Department of Applied Mathematics and Statistics | Stony Brook University   Stony Brook, New York
R Package Development Project   *January 2024 – May 2024*
- Developed an R package, incorporating advanced statistical models (linear, logistic, ridge, lasso, elastic net) with a focus on high-dimensional data and implemented model selection, bagging, and ensemble learning techniques to enhance prediction accuracy and robustness
- Created detailed documentation to guide users, demonstrating strong technical writing and communication skills
- Designed packaging with custom functions for feature selection and model validation and conducted rigorous testing to ensure the package's reliability and performance, showcasing expertise in statistical computing and software development

Department of Applied Mathematics and Statistics | Stony Brook University   Stony Brook, New York
Reducing Dimensions and Visualizing the Iris Dataset Using PCA   *August 2024 – December 2024*
- Applied PCA to decrease the dataset from four dimensions to two principal components, encapsulating over 95% of the dataset's variability, thus highlighting the most significant data insights
- Employed R's ggplot2 for the visualization of PCA results, successfully differentiating between three Iris species
- Analyzed and visualized clustering patterns within each Iris species, identifying distinct data structures and potential boundaries for classification

WORK EXPERIENCE

SUNY KOREA   Incheon, Republic of Korea
Teaching Assistant   *August 2019 – June 2021*
- Provided two hours of weekly office hours, directly supporting over 40 students in mastering concepts in Precalculus, Linear Algebra, and Calculus 2, leading to improved academic performance
- Independently conducted recitation sessions for Precalculus to 40 undergraduate students, effectively supplementing primary lecture content and enhancing students' ability to keep pace with core curriculum demands

Tutor *February 2020 – June 2020*

- Tutored four students weekly in Calculus 1, focusing on clarifying concepts and assisting with assignments
- Employed personalized teaching methods to address individual learning styles and difficulties