Wuhuan/Brian Deng

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Educations

UC San Diego(09/2021 -06/ 2024)	*Bachelor of Science in Applied Mathematics(GPA Major & DS: 3.73/4.0)*
University of Washington(09/2024 - 12/2025)	*Master of Science in Applied and Computational Mathematics*

Skills

Python, Java, Matlab, R, Machine Learning, Regression, Classification, Data Cleaning, Data Visualization, Data Analysis, Calculus

Professional Experiences

Chinese Academy of Sciences - Research Assistant   08/2023 - 09/2023
- **Web Scraping:** Developed a web scraping tool using Python and Beautiful Soup to extract detailed stock post statistics. Integrated proxy management to optimize data extraction efficiency and reliability.
- **Data Cleaning & Processing:** Handled missing values, duplicate entries, and inconsistent formats.

Maccura Biotechnology Co. Ltd - Interned Algorithm Engineer   07/2023 - 08/2023
- **Exploratory Data Analysis:** Utilized Python to compare new medical equipment data with standardized datasets, ensuring accuracy and consistency. Employed statistical techniques to calculate confidence intervals.
- **Unsupervised Learning:** Used unsupervised learning to cluster patients and generate detailed health reports based on equipment data.

State Grid Sichuan Economic Research Institute - Intern Assistant Analyst   07/2022 - 08/2022
- **Time Series Forecasting:** Predicted and modeled energy consumption distribution across different seasons and regions.
- **Exploratory Data Analysis:** Conducted analysis of district-level electricity consumption patterns to inform the construction of electrical transportation equipment.
- **Actionable Recommendation:** Provided actionable recommendations for the strategic placement and construction of electrical transportation equipment based on consumption patterns and potential demand.

Projects

NBA Playoff Prediction (R)   06/2024 - 07/2024

Link: https://github.com/briandeng030216/NBA-Playoff-Prediction
- **Data Cleaning & Processing:** Cleaned, and processed large datasets. Standardized data from various sources to create a unified format. Developed essential data frames using R for efficient data manipulation and analysis.
- **Feature Engineering:** Created new variables that capture important aspects of team performance.
- **Data Visualization:** Plotted the relationships between different features and game results.
- **Model Training:** Utilized machine learning algorithms, including decision trees and random forests to build predictive models for NBA playoff outcomes.

Housing Price Prediction (Python)   04/2024 - 06/2024

Link: https://github.com/briandeng030216/Housing-Price-Prediction
- **Data Cleaning & Processing:** Processed and cleaned datasets to handle missing values and inconsistencies. Transformed categorical variables into numerical representations.
- **Model Training:** Applied machine learning algorithms including Gradient Boosting and Random Forests to develop predictive models and evaluate accuracy.

Soccer Games Analysis and Prediction (Python)   07/2022 - 09/2022

Link: https://docs.google.com/document/d/1EiRPtrcLS9xAlfOuJU6768QEM4vZ5KnJGX5Xh9OLoWs/edit?usp=sharing
- **Exploratory Data Analysis:** Conducted detailed comparative analysis and hypothesis testing of playing style across different leagues. Analyzed historical match data to uncover trends and patterns.
- **Data Visualization:** Employed Matplotlib to create comprehensive visualization of key metrics across teams and leagues. Created visual comparisons of team performance metrics to highlight strengths and weakness.
- **Supervised Learning:** Applied linear regression, decision trees, and random forests to build predictive models of game outcomes. Utilized predictions to assist in strategic planning for team development and match preparations.