Barbara Benitez
Data Scientist

in LinkedIn

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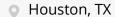
◉ Houston, TX

Barbara-benitez.github.io

EDUCATION

PhD in Mathematics

University of Houston

📅 August 2008

◉ Houston, TX

SKILLS

Machine Learning

Statistical Analysis

Data Visualization

Advanced Mathematics

Programming

Data Wrangling

EXPERTISE

Python (NumPy, Pandas, Scikit-Learn, Seaborn, Matplotlib)

Supervised Learning:

- Regression: linear, decision trees, random forest, SVR, gradient boost
- Classification: logistic regression, decision trees, random forest, SVC, PCA, Naïve Bayes, KNN, XGBoost, MLP

MATLAB, SQL, LaTeX, Excel, Tableau, Google Sheets

Recent Projects

Price of Electricity Prediction Model

- Executed several regression models to predict the price of electricity using Python
- Cleaned the data, corrected for missing data values, transformed categorical data using OneHotEncoding, standardized with StandardScaler, and ran the models through a Pipeline
- Utilized VIF to eliminate multicollinearities
- Evaluated the models against the testing data using accuracy scores and correlation matrices

Fraudulent Bank Charge Prediction Model

- Executed several classification models to determine if bank charges were fraudulent
- Performed data cleaning, transformed data using StandardScaler, and ran several models through a Pipeline
- Utilized PCA to reduce the dimension of the data
- Evaluated the models for predictive accuracy and computed the expected gain to the company with the use of an improved model

Associate Professor of Mathematics

Houston Christian University

📅 August 2008 – current   ◉ Houston, TX

- Development and teaching of math courses in Calculus, Linear Algebra, Statistics, Biostatistics, and Differential Equations
- Data collection and summary for accreditation of the math program
- Perform routine analyses of math program and courses to identify opportunities for improvement and growth
- Evaluated and mentored junior faculty members

Senior Actuarial Analyst

Mellon Bank

📅 1998-2002   ◉ Houston, TX

- Supported a team of actuaries and performed data valuations for defined-benefit and defined-contribution plans
- Used internal data sources to perform statistical modeling to determine pension benefits using mortality and other risk factors
- Responsible for data cleaning and preparation for advanced modeling using Excel and proprietary software
- Used valuation results to summarize pension valuations and present them to clients