

Masood Dastan

Data scientist, Economist

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Driven Data Scientist with a background in mathematics, statistics, and economics. Expertise in causal analysis, data analytics, and deep learning. Passionate about solving complex problems in the financial sector. Strong track record in teaching and research in economics and quantitative methods. Committed to continuous learning and contributing to transformative solutions.

SKILLS

Languages: Python (Sci-Kit-Learn, Pandas, Statsmodels, etc), SQL, R, SPARK, STATA;

Data Visualization: Seaborn, Matplotlib, GGplot2, Tableau, AWS, Web Scraping;

Supervised / Unsupervised Machine Learning, Natural Language Processing, Neural Networks;

Research: Applied Economics, Econometrics, Time Series Analysis

PROJECTS

Housing Market Analysis | Python, Sklearn

- Cleaned a dataset with missing values, outliers, and incorrect data types.
- Developed a comprehensive data cleaning function and preprocessing steps and added features based on available features.
- Developed linear regression and shrinkage models (Lasso, Ridge, Elastic Net).
- Implemented a feature selection algorithm (forward selection) to identify impactful variables.
- Achieved significant performance improvement, with models outperforming the benchmark by 75%.

Reddit Post Classification and Prediction | Python, NLTK, Sklearn

- Leveraged Reddit's API to scrape over 10,000 posts from two distinct subreddits, namely "Personal Finance" and "Investing."
- Utilized Natural Language Toolkit (NLTK) for data preprocessing, CountVectorizer, TF-IDF Vectorizer, and various classification models from the Sklearn library.
- Conducted an in-depth analysis of the data to predict the subreddit to which each post belongs.
- Developed a successful predictive model that accurately determines the subreddit category of each post.
- Identified the most influential words in the prediction process, providing valuable insights into the data.

Predicting Credit Card Delinquency | Python, Sklearn, Deep Learning

- Led a team in developing a sophisticated predictive model for credit card delinquency in the financial sector.
- Conducted preliminary data analysis, addressing challenges like data imbalance and missing values using SMOTE and data imputation strategies.
- Spearheaded data cleaning efforts, removing duplicates, handling missing values, dropping irrelevant features, and generating new ones.
- Conducted exploratory data analysis, ensuring data quality and eliminating skewed analyses.
- Implemented multiple machine learning models, including Gradient Boosting, AdaBoost, SVC, Logistic Regression, Random Forest, and a Deep Neural Network, to predict credit delinquency.
- Contributed to a modern, data-driven approach to credit risk assessment, empowering banks to make informed credit decisions and reduce default rates.

Investigating the Impact of FOMC Meetings on Stock Market Performance | SpaCy, NLTK, Sklearn, Transfer Learning , Deep Learning

- Investigated the impact of FOMC meetings on stock market performance.
- Integrated text analysis to uncover key themes and sentiments from FOMC meeting minutes.
- Utilized topic modeling (LDA) to identify significant US economic concerns discussed during FOMC meetings.
- Conducted sentiment analysis using two methods for comprehensive assessment of FOMC statements.
- Evaluated five classification models to gauge the impact of FOMC meetings on stock market performance.
- Achieved 57% accuracy and 61% AUC score with the Gradient Boosting Classifier.

PROFESSIONAL EXPERIENCE

Data Science Fellow, General Assembly | Remote

May 2023 – Aug. 2023

- 12-week, 400+ hour training program focusing on the ability to analyze, make sense of, convey data-driven facts from massive data sets, and predict what happens next through predictive modeling and pattern recognition.

Assistant Professor, The University of Texas at El Paso | El Paso, TX

Sep. 2020 - present

- Co-Authored and published one peer-reviewed article..
- Instructed over a thousand students at both the undergraduate and graduate levels in economics, business analytics, and quantitative method courses.
- Collaborated on multiple University and College committees. Notably, played a key role in the faculty team that formulated the College of Business strategic plan for 2030.

Visiting Assistant Professor, Texas A&M International University | Laredo, TX

Sep. 2019 – Aug. 2020

- Instructed undergraduate levels courses in Microeconomics, Macroeconomics, and Econometrics.

Graduate Research and Teaching Assistant, Georgia State University | Atlanta, GA

Sep. 2013 – Aug. 2019

- Co-Authored and published two peer-reviewed articles.
- Assisted Faculty on their research (gathering and cleaning data, preliminary analysis)
- Instructed undergraduate levels courses in Microeconomics, Public Finance, and Econometrics.

RESEARCH EXPERIENCE

Publications

- Dastan, Seyedmasood, and John Gibson. "The effect of corruption on firm investment in the presence of missing data." *American Journal of Economics and Sociology* 82.1 (2023): 79-93
- Abdoli, Ghahreman, Yazdan Gudarzi Farahani, and Seyedmasood Dastan. "Electricity consumption and economic growth in OPEC countries: a cointegrated panel analysis." *OPEC Energy Review* 39.1 (2015): 1-16.
- Gudarzi Farahani, Yazdan, and Masood Dastan. "Analysis of Islamic banks' financing and economic growth: a panel cointegration approach." *International Journal of Islamic and Middle Eastern Finance and Management* 6.2 (2013): 156-172.

Under Review

- Understanding the link between firm size, exposure to public officials and firm corruption (Economic Inquiry)

EDUCATION

Georgia State University | Atlanta, Georgia

Aug. 2019

Ph.D. in Economics

University of Tehran | Tehran, Iran

May 2013

Master of Arts in Energy Economics

University of Tehran | Tehran, Iran

May 2010

Bachelor of Arts in Economics