Teja Konduri

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SUMMARY

Data Scientist and Empirical Economist with seven years of research experience specializing in **forecasting**, **data analysis**, and **visualization**. Expert in **machine learning** and **econometric modeling**, with hands-on experience building **Tableau dashboards** and applying **R** and **Python** to analyze and visualize complex datasets. Proven ability to develop **macroeconomic forecasts** and extract actionable insights from diverse datasets to inform strategic decision-making.

SELECTED EXPERIENCE

Data Strategy Postdoctoral Fellow, *University of Notre Dame, Notre Dame, IN* Aug 2024 – Present

- Currently designing and developing Tableau dashboards to enhance data visualization and reporting capabilities for both the Graduate School and Division Student Affairs of the university.
- Leading efforts in external benchmarking, collecting and analyzing data strategies from peer institutions to inform best practices for data-driven decision-making in Student Affairs.
- Collaborating with senior administrators to streamline data collection processes and support strategic initiatives through data analysis and visualization tools.

Graduate Economics Researcher, *University of Notre Dame, Notre Dame, IN* Aug 2019 – Jun 2024

- Evaluated the performance of various machine learning methodologies, including individual and ensemble methods such as k-nearest neighbors, support vector regressions, gradient boosting, adaptive gradient boosting, and principal component analysis (PCA) for dimension reduction in forecasting monthly macroeconomic and financial variables.
- Demonstrated that machine learning models significantly improve the prediction of quantities such as income, consumption, and employment compared to traditional time series benchmarks. However, they underperform in predicting prices and financial indicators like the CPI and the S&P 500.
- Conducted extensive exploratory data analysis on diverse cross-sectional and time-series datasets, employing advanced data visualization techniques to uncover and articulate causal mechanisms effectively.

Economics Intern, *Amazon.com, Bellevue, WA* Jun – Oct 2023

- Developed an SVAR model to assess the impact of supply shocks on marketplace dynamics.
- Utilized Bayesian estimation, State Space modeling, and Gibbs sampling methods to enhance model accuracy.
- Collaborated closely with business intelligence engineers to identify available data sets and consulted with data scientists to develop tailored SQL queries in Amazon Redshift for data extraction, transformation, and loading (ETL).
- Presented the internship's key findings to a diverse audience at the "Amazon Economics Intern Showcase," effectively communicating the project's relevance and implications.

Research Associate, *Indian Institute of Management, Bangalore* May 2016 – Jul 2019

- Collaborated with three professors across two universities in India and the USA on a corporate finance research paper.
- Developed data collection and management skills by creating a last name to caste database using matrimonial data.
- Computed boardroom caste homophily index for over 10,000 Indian firms and predicted the likelihood of mergers between similar firms. Designed and implemented a complex R program to reduce run time from 30 days to 6 hours.
- Successfully presented our research paper at a university seminar and an academic conference, demonstrating strong public speaking and presentation skills.

EDUCATION

PhD in Economics, *University of Notre Dame, Notre Dame, IN* Jun 2024

- Dissertation: *"Understanding Macroeconomic Dynamics: Big-Data Forecasting and the Effects of Oil Price Shocks"* Compared monthly Pseudo Out of Sample forecasts for economic indicators using both econometric and machine learning models, showing that machine learning models outperform traditional time series models for real variables like income and consumption, while prices and stock indices remain difficult to predict using these techniques.

MA in Economics, *University of Notre Dame, Notre Dame, IN* Jan 2023
MS in Quantitative Economics, *Indian Statistical Institute, Delhi* Jan 2018
BE (Honors) in Computer Science, *Birla Institute of Technology and Science – Pilani, Hyderabad* Jul 2014

HONORS AND AWARDS

- Graduate Fellowship, 2019-2024, *University of Notre Dame, Notre Dame, IN*
- Graduate Fellowship, 2015-2017, *Indian Statistical Institute, Delhi*

RELEVANT SKILLS

Data Analysis and Visualization: *R (Tidyverse, data.table, ggplot), Python (Pandas, Numpy), Tableau, SQL, Excel*
Machine Learning: *Decision Trees, Random Forests, SVM, AdaBoost, XGBoost, Gradient Boost, kNN, Time Series Forecasting*
Project Management: *Communication, Organization, Stakeholder Engagement*
Data Strategy: *Expertise in streamlining data collection processes and creating visual reports for strategic decision-making.*