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PRITHVIRAJ LAKKAKULA, Ph.D.

Information

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Personal Summary

- Passionate about turning data into interpretable and actionable insights
- Over six years of experience in Applied Statistics and over four years of experience using Data Science and Machine Learning for solving business problems
- Led over sixteen projects from ideation to final deliverables
- Expertise in price and demand forecasting, causal inference, A/B testing, predictive analytics, and end-to-end machine learning workflow
- Led and secured multiple grant awards as Principal Investigator (PI) and Co-PI for a total of $528,310 for applied economics research
- Effectively analyzed complex business problems and communicated results focusing on interpretability to multiple organizations/stakeholders and via publications
- Enjoy watching American Football

Skill Summary

Languages: R, Python
Data Visualization: ggplot2, Matplotlib, Shiny, Power BI
Machine Learning/Deep Learning: Azure ML Studio, Keras, AutoML (h2o)
Databases: MySQL and PostgreSQL
Cloud Technologies: Microsoft Azure, Amazon Web Services, Heroku

Knowledge Summary

- Applied Statistics
- Machine Learning
- Handling Anomalies (Outliers)
- Unsupervised Learning
- A/B Testing
- Data Visualization
- Handling Class Imbalance
- Price & Demand Forecasting
- Causal Inference
- Handling Missing Values
- Supervised Learning
- Survival Analysis

Professional Experience

Research Assistant Professor
North Dakota State University, Fargo, ND — January 2015 – August 2020 & May 2021 – Present
Tennessee State University, Nashville, TN — September 2020 – October 2020

- Administered the end-to-end machine learning workflow starting from identifying/framing the business problem and its requirements to the deployment of the best performed model using cloud technologies
- Predicted the agricultural commodities prices using machine learning, improving the accuracy of the forecasts by 15% relative to the existing technique
- Analyzed and quantified the effect of a trade policy on U.S. soybean basis (treatment) compared with five other untreated (control) countries' soybean basis using causal inference technique (synthetic control method) to better prepare for policy shocks in the future
- Improved the accuracy of classifying a correct wheat variety by about 7% (relative to existing method) using machine learning (random forest and gradient boosting) methods
- Predicted the quality of red wine using interpretable machine learning techniques with scalable machine learning platform (h2o) to communicate insights to stakeholders
- Developed convolutional neural networks (deep learning) to predict soybean disease (image analysis) with multiple classes using keras
- Designed and deployed an interactive data visualization showing trends in production, domestic consumption, exports, and imports of three commodities across five countries using Shiny

Education

University of Florida, Gainesville, FL, USA — August 2014
Doctor of Philosophy (Ph.D.) in Economics

University of Arkansas, Fayetteville, AR, USA — August 2010
Master of Science (M.S.) in Economics

Certification Programs

Microsoft Corporation, Redmond, WA, USA — December 2019
Microsoft Professional Program (MPP) in Data Science

MIT Sloan School of Management, Cambridge, MA, USA — September 2018
Blockchain Technologies: Business Innovation and Application

Leadership

- Chaired an award committee consisting of five members to identify the best eligible candidates for award nominations in applied economics
- Reviewed research papers and their suitability for publication in the journal as a member of editorial council
- Automated the meeting schedules of the award committee to save time for the organization and members
- Organized orientation session and guided new incoming graduate students in the department
- Communicated the needs and concerns of the graduate students to the Graduate Student Council, Graduate Coordinator, and the Department Chair
- Served as a liaison between approximately 100 graduate students and the administration of the Economics Department at the University of Florida
- Organized monthly graduate student council meetings to elicit and distribute information pertaining to scholarships and travel grants

Selected Publications

8. **Lakkakula, P**., and Huntington-Klein, N.C. (2022). The Effect of US-China Trade War on US Soybean Basis: A Synthetic Control Approach. Under Review.
7. SenGupta, I., Awasthi, S., Wilson, W.W., and **Lakkakula, P**. (2022). Machine Learning and Neural Network Based Model Predictions of Soybean Export Shares from US Gulf to China. Under Review.
6. **Lakkakula, P**. (2018).“Time Series Versus Causal Forecasting: An Application of Artificial Neural Networks”. *International Conference on Time Series and Forecasting* (ITISE), Granada, Spain, September 19–21, 2018.
5. **Lakkakula, P**., and Wilson, W. (2021). “How Blockchain Technology Impact Agriculture”. Accepted for the *Handbook on Blockchain and Cryptocurrencies*. Edward Elgar Publishing.
4. **Lakkakula, P**., Bullock, D., and Wilson, W. (2021). “Asymmetric Information and Blockchain in Soybean Commodity Markets”. *Applied Economics Perspectives and Policy*.
3. **Lakkakula, P**., Bullock, D., and Wilson, W. (2020). “Blockchain Technology in International Commodity Trading”. *The Journal of Private Enterprise*, 35 (2): 23–46
2. **Lakkakula, P**. (2017). “Testing Causality Among Five Fertilizer Prices”. *Applied Economics Letters*. DOI:10.1080/13504851.2017.1352067
1. **Lakkakula, P**., Schmitz, A., and Ripplinger, D. (2016). “U.S. Sweetener Demand Analysis: A QUAIDS Model Application”. *Journal of Agricultural and Resource Economics* 41(3): 533–548.

Awards

- Received an award [Honorable Mention] for “Sweeteners May Leave a Sour Note on NAFTA Renegotiations” under Outstanding Choices Article category at AAEA Annual Meetings, Washington DC, 2018.
- Received the Grinter Fellowship Award of $2200 for an outstanding (incoming) Ph.D. student, Gainesville, FL, August 2010 – July 2011.