Application for NBER Digital Economics and AI Tutorial 2025

Contact Information

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Graduate Study Details

I am a fourth-year PhD candidate in the Dept. of Agricultural and Resource Economics at the University of California, Davis. I have been enrolled in the PhD program since 2021.

Research Interests

Development Economics, Firm Productivity, Trade, Migration, Machine Learning.

Ongoing Research Projects:

1. Predicting Mexico-to-US Migration with Machine Learning and Simulating the Impact of Shocks on Future Trends (with J. Edward Taylor)
    - Summary: We train a Light Gradient-Boosting Machine (LightGBM) model on a large panel dataset tracking where Mexican migrants worked from 1980 to 2010. The model achieves an accuracy of 97.7%, correctly predicting 336 out of 344 individuals who worked in the US in the final test year (2010) using only past data. We find that migration status in the previous period, age, past remittances received by the household, and cumulative years of family members in the US are among the most important variables for predicting migration. We then simulate the impacts of counterfactual scenarios, such as changes in remittances, demographics, income, labor market conditions, and household migration history, on Mexico-to-US migration by shocking these variables in the year preceding the final test year. This paper contributes to the growing literature on predicting complex economic phenomena using machine learning methods by demonstrating their effectiveness in accurately predicting migration and simulating how changing economic and social factors might affect future migration trends.
2. Firm Productivity in Southeast Asia (for the World Bank's East Asia and Pacific Chief Economist's Office)
    - Report on firm productivity in Southeast Asia, analyzing the impact of skills, tradability, non-tariff measures (NTMs), and pandemic resilience on total factor productivity (TFP). This analysis utilizes labor force surveys, input-output tables, trade data, and firm-level production function estimation (Ackerberg, Caves, and Frazer, 2015; Wooldridge, 2009).
3. Supply Chain Networks, Risk Sharing, and Resilience to Shocks Among Small Firms in Tanzania (with Jess Rudder and Daniel Putnam)

Committee Members: Professor Travis J. Lybbert (Advisor), Professor J. Edward Taylor, Professor Arman Rezaee