Xin Ning

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Expertise

Tools: Python, SQL, STATA, R, Matlab, Git, Tableau, Plotly, Mode Analytics

Packages: pandas, numpy, matplotlib, scipy, statsmodels, sklearn, tensorflow, sqlalchemy

Statistical Modeling: Causal Inference, Experimental Design, A/B Testing, Difference-in-Differences, Propensity Score Matching, Synthetic Control Methods, Survival Analysis, Time Series Analysis, Bayesian Inference

Machine Learning: Linear and Logistic Regressions, Random Forests, Boosting, Support Vector Machines, K-nearest Neighbors, Clustering(K-means, Hierarchical, Kernel), Feature Engineering, Model Selection, Cross-validation

Education

Ph.D., Applied Economics **Dec 2019**
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA, USA

B.S., Economics **Jun 2014**
Nanjing Audit University, Nanjing, China

Experience

Data Science Fellow, *Insight Data Science Fellows Program* **Sep 2019–Jan 2020**

- Consulted with an online learning start-up company to evaluate their referral program to improve user acquisition.
- Queried over 200K+ granular data across 20+ tables in relational database using Mode Analytics and created 30+ feature metrics relevant to site performance, course property, and user actions using SQL and Python.
- Built a supervised classification model to predict successful user referrals using logistic and random forests with SMOTE and recursive feature elimination cross-validation to reduce overfitting (+85% model accuracy on test set).
- Delivered a set of suggestions to boost their user acquisition and engagement by nudging specific users to act, optimizing class formats, and providing a great initial course experience, which has been adopted by the company to upgrade their products and gained substantial revenue increase.

Postdoc Research Associate, *Virginia Tech* **Jan 2020–present**

- Developed a global simulation model to assess the impacts of trade agreements, projected billions of losses to U.S. livestock industry due to withdrawal from CPTPP, where over 90% are recovered from U.S.-Japan trade agreement.
- Developed a survival model to estimate the impact of non-tariff measures (NTMs) on US and global agricultural exports using millions of product-line trade data over 20 years, which quantified a 3%-8% increase in the probability of failure of trade relationships owning to the presence of NTMs.
- Built a data pipeline to extract public data sources using Python and API and bulk preprocessed these documents and excel data used in statistical modeling and economic impact analysis.

Graduate Researcher, *Virginia Tech* **Aug 2015-Sep 2019**

- Applied a pseudo-Poisson maximum likelihood model to estimate the trade import elasticities, which was cited by USDA to estimate the 2018 Trade Damage Assessment and Farm Market Facilitation Program.
- Proposed a transitional demand system to examine market shocks caused by food safety outbreaks using panel data, which detected significant drifts in consumer preferences over imported products.
- Built a demand model to assess the impact of China's trade diversification strategy on U.S. farmers and agribusinesses, which found declining competitiveness of U.S. exports against Australia, Argentina and Brazil in China.

Instructor, *Virginia Tech* **Aug 2017-May 2019**

- Designed the undergraduate level course *principle of microeconomics* and organized paired group activities to improve students' learning experience (full-semester).
- Lectured *math*, *statistics* and *econometrics* review sessions for first-year Ph.D. students' qualifying exams and *international trade and finance* for senior Ph.D. students' field research (multiple sessions).
- Facilitated the department workshops and seminar events to improve collaborations across research fields.