

YONG BIAN

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EDUCATION

- University of Missouri, Columbia** *Dec 2020(expected)*
Ph.D. in Economics
Dissertation: Essays on Machine Learning Applications in Economics: Causal Inference and Prediction
- The Chinese University of Hong Kong** *Dec 2014*
M.S. in Economics
Honors/Awards: Excellent Performance Award (Ranked No. 1 in Applied Econometrics class); Dean's List
- Central University of Finance and Economics, Beijing, China** *Jun 2013*
B.S. in Statistics
Honors/Awards: National Research/Survey Analyst (National Certificate); Summer Volunteer (2011) in Yu Huan, Zhejiang Province

RESEARCH PAPERS

- A Model Discussion and DML Application–Based on California Math Curriculum Causal Effect Analysis**
- Applied Double/Debiased Machine Learning (DML) to extend previous studies on student achievement.
 - Reduced the estimation biases by using orthogonal moments and sample splitting.
 - Improved the DML standard error reporting system by clustered bootstrapping.
 - Beat other nonparametric (Kernel Matching) results: giving statistically significant point estimates.
 - Reduced linear model biases by approximately 25%.
- Causal Inferences on Young Economics Professors' Salaries (Job market paper)**
- Novel dataset: detailed research productivity information of young economics professors in the US.
 - Causal effect identification and estimation under high-dimensional control variable set.
 - Effective dimension reduction, multi-level model validation (different models and control variables used).
 - Major results Discussion: economics meanings and model comparison.
- Paper Quality and Gender Bias Based on Text Analysis**
- Built Random Forest, XGboost, OLS models to predict paper qualities, measured by H-index.
 - Novel dataset: collect economics papers published in recent years.
 - Text cleaning: Word2Vec (Word embedding): tf-idf; SVD truncation for dimension reduction.
 - Analysis of gender bias: applied DML models for Gender causal effect estimation.
- Health Impacts of Household Sanitation Conditions in Rural China (Working in Progress)**
- Investigate the household sanitation conditions impact on elder people's health.
 - Focusing on living standards of people from rural China.
 - Causal effect analysis under high-dimensional controls.
 - Discuss possible polices that could help improving health conditions, living standards and longevity in rural areas.
- Recurrent Neural Network for High Dimensional Probability Estimation in Economic Modelings (Working in Progress)**
- Use recurrent neural network to estimate probabilities of autocorrelated series; build 3-D input and 3-D output prediction model.
- Forecasting Stock Returns Using Machine Learning Methods**
- Built Lasso, Elastic net and Ridge models in predicting stock returns.
- An Exploration of Logit Model - Combined with Ridge based on drug and alcohol data**
- Built high dimensional binary prediction model

WORK EXPERIENCES

Department of Economics, University of Missouri

Research Assistant

Jun 2017 - Aug 2017

- Project: “Modeling and Extrapolating Wheat Producer Support Using Income and Other Factors.”
- Coded in R for data cleaning (“dplyr”); Penal data analysis, built fixed effect models; made graphs (“ggplot”)

Teaching Assistant

Aug 2015 - Present

- Held tutorials, exam reviews and office hours;
- Three semesters of **Head TA**: as a class organizer, helped the professor with administrative tasks, bridge between professor and students.
- TA courses: Econ1015: Principle of Macroeconomics; Econ1014: Principle of Microeconomics; Econ 3229: Money, Banking and Financial Markets; Econ 4353: Intermediate Macroeconomics; Econ 4371/7371: Introductory Econometrics; Econ 4370/8370: Quantitative Economics.

Beijing Haidian Dist. Ministry of Statistics, Beijing, China

Summer Intern, Data Analyst

Jun 2013 - Aug 2013

- Cleaned survey data, built simple linear regression model and completed 50 pages salary report; assisted managers in other administrative tasks.

SOFTWARE

R, Python, SQL

REFERENCES

David M. Kaplan (Advisor)

Associate Professor, Department of Economics, University of Missouri
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Peter Mueser (Committee member)

Chancellor’s Professor, Department of Economics, University of Missouri
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Saku Aura (Committee member)

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