KESHI SHEN

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EDUCATION

Ph.D. Candidate in Economics, University of Illinois at Urbana-Champaign *2016 - Present*
Transportation Economics (Primary); Empirical IO (Secondary)
M.Sc. in Econometrics and Quantitative Economics, Tufts University *2014 - 2016*
B.Sc. in Economics and Mathematics (Dual Degree), Renmin University of China (RUC) *2010 - 2014*

RESEARCH EXPERIENCE

Congestion Effects from Price Incentives: Evidence from an Uber Experiment (JMP)
• Using over 130,000 Uber trips from a rider experiment, estimated a demand model at the hour $\times$ $1km^2$ $\times$ user level
• Analyzed the rider responses from 25% and 50% price discounts, identified that demand is more elastic in congested hours and congested places with an additional 5.7%-7.3% volume increase when speed decreased by 10 km/hr
• Simulated mobility benefits net of congestion cost at the route level, found that the mobility benefits decreased by on average 30% due to congestion and the highest benefit results in less central areas

Heterogeneous effects and optimal treatment: Evidence from an Uber experiment
• Combined the RCT method with Machine Learning tools to analyze Uber usage differences based on demographics
• Trained supervised learning models including Elastic Net, Gradient Boosting, Random Forest and Neural Network
• Selected tuning parameters with Cross Validation; compared model performance with constructed prediction scores
• Best models predicted significant different usage responses among the top and bottom affected groups (72.7 km or 6.8 trips per individual per week), with single, self-employed and high-income groups being more responsive

Value of safety in the transit mode decision (with Peter Christensen and Adam Osman)
• Built multiple transit discrete choice models using stated preference surveys with the control function approach
• Using cost variations, found that 80% of the increase in ride-hailing services come from the reduction of bus usage
• Based on different instrument variables, estimated the value of time to be between 61.8-72 EGP/hr and the average rider is willing to pay 26.3-29.8 EGP for a 20% increase in transit safety

INTERNSHIP EXPERIENCE

Uber (Marketing Applied Scientist PhD Intern) *May 2022 - Aug 2022*
• Proposed and compared 4 different Meta Analysis methods in analyzing marketing incrementality tests
• Developed a Hierarchical Bayesian Meta Analysis of a incrementality function using historical and non-stat sig tests
• Using observational data, modeled and bounded keyword level conversion rates of the paid marketing channel
• Participated in pre and post analysis of market level incrementality test using synthetic control method

China Development Bank (Data Analyst Intern) *July 2013 - Oct 2013*
• Queried and updated financial and product descriptive data for companies with lending relationships
• Formulated finance ratios then computed corporate level credit rating for 10+ investment projects

ASSISTANTSHIPS AND OTHER EXPERIENCES

Research Assistant for Prof. Peter Christensen and Prof. Adam Osman *2020 - 2021*
• Pre-processed trip and survey data for the Uber Cairo Experiment project
• Designed discrete choice models with different methods including GMM, mixed logit and control function
• Simulated mobility benefit and substitution pattern for the counterfactual change in price and safety

Teaching Assistant for Economic Statistics (Head TA in 2020) *2017 - Present*
• Outstanding award (the top 10% of instructors) in 2017, 2020 and 2021

Big Data in Environmental Economics and Policy Research Group (at UIUC) *2019 - Present*
• Collaborated with computer scientists and engineers in building spatial analysis for the Uber Cairo project
• Presented in weekly group meeting on research progress for Uber Cairo related projects
• Discussed and provided suggestions to other ongoing urban and environmental research projects

SKILLS

• R, Python, SQL, Stata, Matlab
• Linear and Logistic Regression, IV and Control Function, Propensity Score Matching, Synthetic Control, Generalized Method of Moments, Bayesian Estimation, Elastic Net, Gradient Boosting, Random Forest, Neural Network
• A/B Testing, Geo Market Testing, Hypothesis Testing