Kai Zhu

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Coursework

I am now a third year PhD student in Information Systems at Questrom School of Business, Boston University. My training is mainly from economics with a minor focus on machine learning. With bachelor degrees in both economics and computer science, I come to graduate with a strong interest in studying the impact of digitization and socio-technical systems of the life of individual people and society as a whole. I have finished my coursework and passed my comprehensive exams in the summer of 2017. Below is list of courses that I took in the graduate school:

Microeconomics Theory (I and II)

Econometrics (I, II and III)

Empirical Research of Innovation and Digitization (Shane Greenstein and Karim R. Lakhani, Harvard Business School)

Economic of Digitization (Erik Brynjolfsson, MIT)

Social Network: Theory and Application (Sinan Aral, MIT)

Digital Experiments: Design and Analysis (Dean Eckles, MIT)

Causal Inference for Management Research (Timothy Simcoe, BU)

Statistical Methods for Evaluating Causal Effects (BU)

Machine Learning (BU)

Computational Tools for Data Mining (BU)

Research

I am generally interested in the dynamics of socio-technical systems and its implication for individuals and society. Specific examples include the role of peer influence in online and offline interaction, what causes cascade of behaviors change, and effective way to combat misinformation on social media. I mainly interested in obtain causal insights about the above questions, either through exploiting exogenous variation in natural experiments or conducting field experiments. A short description of the projects I am currently working on are provided in the following:

1. Content Growth and Attention Spillover in Information Networks: A Large-Scale Natural Experiment on Wikipedia (With Lev Muchnik and Dylan Walker)
    - Leveraging a large-scale natural experiment, we investigate the impact of exogenous content addition on the future evolution of a Wikipedia article. More interestingly, as Wikipedia is a dynamic system of articles hyperlinked to each other, we examine how does attention spillover between articles and its policy implication on editing behavior in terms of maximizing attention a cluster of articles get. At this stage, we have most of the results and are about to write the first draft of the paper.
2. Social Interventions on Social Media (With Dylan Walker)
    - In this project, we aim to find effective social interventions to induce behavior change for people both online and offline. Two domains we plan to examine is misknowledge about antibiotic and the spread of fake news. This project is collaborated with Dylan Walker and we have been working on building an experimentation platform that allows researchers conduct real-time randomized control trial on Twitter. At this stage, we got the IRB approval and are testing the infrastructure. We plan to run the first pilot experiment in this coming December. This project is partly funded by Knight Foundation.
3. Test for Demand-Induced Polarization in News Media (With Dylan Walker)
    - From a 200GB text corpus of TV News broadcasted in all the TV channels (both cable and local) in the United States for two years, we want to understand the driven factors of polarization in our news media. Specifically, by exploiting the FCC regulation and market structure of TV, we test for whether TV news will vary their political partisanship base on its audience preference. We are currently working on building a scalable classifier to give each TV channel a partisan score.