Hongcheng Li

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EDUCATION

Peking University, China (09/2016-present)

- Major: Physics [09/2016-07/2017; **GPA: 3.86/4 (91.35/100); Rank: 10/193 (top 5%)**]
- Major: Economics [09/2017-present; **GPA: 3.87/4 (91.67/100); Rank: 1/30 (top 3%)**]
- Expected Graduation: July 2020, Bachelor of Economics
- Core Courses: Intermediate Microeconomics, Intermediate Macroeconomics, Econometrics, Probability Theory, Mathematical Statistics, Advanced Mathematics, Linear Algebra, Introduction of Computation, Data Structure and Algorithm, Data Analysis and Econometric Programming, Pattern Recognition, Methods of Computation, Financial Time Series Analysis, Behavioral Economics, Game Theory and Society, Financial Economics, Field Work in Economic Study, Introduction to Politics, Money and Banking, Methods of Mathematical Physics, Quantum Mechanics, Theoretical Mechanics

RESEARCH EXPERIENCE

Asymmetric War of Attrition: Analysis of Public-Good Provision, Peking University, Beijing, China
Project Leader Supervisor: Dr. Hao Wang (09/2018-present)

- Considered a two-player public-good-provision asymmetric war of attrition under uncertainty of each player's value of the indivisible public good
- Demonstrated the existence, uniqueness and perfection of pure-strategy Bayesian equilibrium of this game
- Investigated into both the symmetric and asymmetric comparative statics to characterize the free-riding pattern
- Provided an asymptotical approach of refinement of the counterpart game without uncertainty, the analysis of which suffers from the serious problem of multiple equilibria
- Discussed the N-person counterpart game and analyzed the welfare variation as group scale grows larger
- The current progress of this research can be viewed via this link

Measuring Investors Sentiment, Peking University, Beijing, China
Research Assistant Advisor: Dr. Yan Shen (10/2018-11/2018)

- Labeled the sentiments and the expectations for the two thousand China stock market comments crawled online, and also extracted keywords that are decisive in determining the comments' sentimental inclination
- Used deep neural network to learn the relation between textual keywords and investors' sentiments, and thus utilized it to evaluate and predict the aggregate expectation of China stock market

Behavioral Collective Action: Thousand Effect in China Stock Market, Peking University, Beijing, China
Project Leader Supervisor: Dr. Juanjuan Meng (11/2018-present)

- Implemented both theoretical and empirical models to analyze the round-number effect in the China stock market including involved mathematical proofs, careful causal identification, and discussion of multiple competing mechanisms
- Crawled stock comments online using Python and applying STATA to analyze panel data (stock comments) and time series data (stock indices and prices)
- Modeled China stock market as a multi-player dynamic game and provided three insightful propositions.
- This project proposal can be accessed via this link

Field Work in Economic Study, Peking University, Beijing, China

Research Assistant Advisor: Dr. Jintao Xu (07/2018-07/2018)

- Carried out an intensive field study in Meibei Village, Jiangxi Province, China
- Served as the leader of the research team aiming to delve into China land institutions and Chinese local governance, and debunked negative effects that nation-wide land reforms have on endemic distribution of bargaining power
- Predicted that re-strengthened power of local authority will marginally enhance economic performance but engender imbalance of rural governance structure

HONOURS & AWARDS

Scholarship

2018 China Economic Research Scholarship, National School of Development, Peking University, China

2017 Guanghua Scholarship, Peking University, China

- This is a nation-level scholarship awarded to top 5% student.

Academic Awards

2018 Award for Academic Excellence, Peking University, China

2017 Meritorious Prize, COMAP's Mathematical Contest in Modeling (MCM)

2015 National Gold Medal, 32nd Chinese Physics Olympiad (CPhO)

- This contest was organized by the China Physical Science Society.
- Peking University admitted me because of this honor.
- Ranked No.84 in China

2015 Provincial First Prize, 32nd Chinese Physics Olympiad (CPhO)

- Ranked No.1 in Sichuan Province

CLASS PROJECTS

- Self-Programmed Single-Player RPG named *PKUmon*, similar to the famous game *Pokemon*.
  - Applied C++ and Qt to construct a PKU version of *Pokemon*
  - Promoted the playability by changing the battle mode to, instead of the original one-to-one form, a many-to-many strategic combat on a 5*5 chessboard
  - Developed an advanced AI in chessboard game using refined Genetic Algorithm
  - This game (Chinese version) can be downloaded via this link.
- Font Recognition.
  - Utilized Python packages *sci-kit learn* and *sci-kit image* to implement a rarely discussed pattern recognition problem, font recognition
  - Compared the efficacy of different methods of feature extraction as well as various learning models
  - This project can be accessed via this link on GitHub.
- *Robust Equilibrium.* Project Proposal.
  - Came up with a novel method of defining robustness of game equilibrium
  - Provided exemplary games to elucidate the flaw of refinement notion in previous literature and how my definition is able to fill the vacancy
  - This project proposal can be accessed via this link.
- *Direction of Advanced Culture? Research on the Sex and Gender Perception of CCP Members.*
  - Applied STATA to extract differences between social value of CCP (Chinese Communist Party) members and that of other Chinese people from a 2015 cross-sectional database on CGSS

  - This project (Chinese version) can be downloaded via this link.
- *A Trial of Applying Principal Component Method to Promote OLS Regression Analysis.*
  - Utilized principal component method to derive a linear transformation of control variables in OLS regression to optimize the significance of weak causality
  - Proved the conditional optimality of this method and demonstrated its efficacy using Chinese macro data
  - This project (Chinese version) can be accessed via this link.

SKILLS

- Programming Languages: Python, STATA, MATLAB, R, C++, Eviews, Lingo, LaTex
- Programming Skills: Data Structure and Algorithm, Methods of Computation, Machine Learning, Deep Learning, Network Data Crawling
- Books Learned by Myself:
  - Economics: *Game Theory* (Fudenberg and Tirole, 1991), *Most Harmless Econometrics* (Angrist and Pischke, 2008), *Applied Econometric Time Series* (Enders, 2012), *Institutions, Institutional Change and Economic Performance* (North, 1990), *Governing the Commons* (Ostrom, 2015), *Misbehaving* (Thaler, 2015), *Risk, Uncertainty and Profit* (Knight, 1921), *The Darwin Economics* (Frank, 2011)
  - Programming: *Text Analytics with Python* (Sarkar, 2018), *Web Scraping with Python* (Mitchell, 2018), *Machine Learning with R* (Lantz, 2013), *Deep Learning with Keras* (Gulli and Pal, 2018)

EXTRACURRICULAR ACTIVITIES

2018-2019 Leader, Publicity Department of Youth League Committee, National School of Development, Peking University

2017-2018 Member, Publicity Department of Youth League Committee, National School of Development, Peking University

2017-2018 Class Commissary in charge of publicity, National School of Development, Peking University

2016-2017 Member, Soccer Team of School of Physics, Peking University

2016-2017 Member, Backbone Training Department of Student Union, Peking University

2016-2017 Class Commissary in charge of entertainment, School of Physics, Peking University

HOBBIES

Soccer, Squash, Tennis, Table Tennis, Billiards

Social Media Account Management: Presented essays on WeChat official account.

(Updated 07/04/2019)