Ke ZENG

PHD CANDIDATE · ECONOMICS

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EDUCATION

Graduate Center, City University of New York   *New York, USA*
PHD CANDIDATE IN ECONOMICS   *Aug. 2017 - June. 2023 (exp.)*

- **Thesis:** *"Essays on physician behavior and healthcare policy."*
- **Research Fields:** Applied Econometrics, Health Economics, Industry Organization

Master of Science, Major in Intl' Economics @ Lund University, Lund Sweden, Aug. 2015 - Jun. 2016
Bachelor of Economics, Major in Finance, @ Northeastern University, Shenyang, China, Sep. 2011 - Jul. 2015

REFERENCE

Partha Deb	Professor, Hunter College and the Graduate Center, City University of New York
Michael Grossman	Professor, Graduate Center, City University of New York
Jessica Van Parys	Assistant Professor, Hunter College, City University of New York
Laura Fernandes	Senior Statistical Director, COTA

SKILL

Causality	Causal Forest (GRF&EconML), Difference-in-Difference, Regression Discontinuity
Models	Linear, Poisson, Multinomial models, Ridge and LASSO, Montecarlo/Agent-Based Simulation, CNNs, RNNs
Programming	Python, Stata, R, SAS, Matlab, LaTeX, Google CoLab
Databases	**Language** SQL&NoSQL; **Data** HCUP, American Community Surveys(ACS), Current Population Survey (CPS)
Languages	Mandarin, Cantonese, English, Hakka, French(A2)

EXPERIENCE

COTA   *New York, USA*
MEDICAL RESEARCH INTERN, ONCOLOGY RESEARCH   *Jun. 2022 - Aug. 2022*

- Led an investigation of patient outcomes on ICI therapy using survival analysis and propensity score matching in R, **identifying positive outcomes of applying multiple lines of ICI regimens** to patients with specific biomarkers (PD-1/PD-L1 inhibitors).
- Proposed analysis methods, including Causality and ML methods, and executed research plans to interpret patient record outcomes. Summarized findings into reports, with one report leading to company-wide changes in inhibitor interpretation protocol and process pipeline.
- Introduced and developed an analysis pipeline of synthetic control arms for predicting patient outcomes using tree-based predictors and causality methods.
- Developed pipelines and dictionaries for searching and separating ICI regimens, which are provided to the whole company.

World Bank Group & Data Whale   *New York, USA*
EXTERNAL CONSULTANT   *Jun. 2021 - Current*

- Led the data projects Health Equity and Financial Protection Indicator (HEFPI) and Multiple Indicator Cluster Survey by proposing ETL (Extract, Transform, Load) workflows from surveys, covered 38 countries for 20 years, with more than 200 variables and millions of observations, coded in Stata.
- Mentored and supervised a team of 3 junior data professionals, providing guidance and training to ensure they were able to quickly adapt to the project requirements and produce high-quality work.
- Collaborated with cross-functional teams in WBG including public health researchers and policymakers to ensure the project results were actionable and impactful in addressing health and financial disparities.

Immigration Research Initiative   *New York, USA*
QUANTITATIVE ANALYST   *Nov. 2021 - Current*

- Utilized a dataset of 15 million observations and 59 variables reflecting the US population universe to create models that accurately abstracted the living and employment status of immigrants in the US, resulting in a 99% precise match with results from the Census Bureau, coded in R.
- Developed a data abstraction pipeline that created 30+ data outputs, showcasing the working and living standards of New York State's population and covering 90% of annual report outcomes.
- Generated interactive dashboards that visualized the results of 20+ geographies and 200+ occupations in R, which were applied to multiple organizational reports and presentations.
- Provided data and technical assistance to six partner organizations, supporting their data analysis and interpretation efforts.

Fiscal Policy Institute   *New York, USA*

Data Analyst   *Jan. 2019 - Nov. 2021*

- Led projects to show immigrants employment status by analysis (Pandas/ARIMA) and visualization. Results fill the gap of immigrant analysis and help to allocate $2.1 billion Excluded Worker Fund, coded in Python/R.

City University of New York   *New York, USA*

Lecturer   *Sep. 2018 - Aug. 2021*

- Lectured ECO321 Introduction to Econometrics at Hunter College, RateMyProf - 4/5, topics covering statistics, regression model and time series.
- Lectured ECON2100 Elementary Macroeconomics at Brooklyn College, topics covering multiple macroeconomics issues.

UN Environment   *Beijing, China*

Intern   *Apr. 2017 - Jul. 2017*

- Provided assistance in the coordination and organization of several high-profile events related to green development, including the 'International Coalition for Green Development on the Belt and Road' Conference, BRICS summit, Environment Minister Conference, World Environment Day 2017, and UN Environment Kubuqi Summer Camp.
- Supported organizational efforts by performing various logistical tasks, such as securing appropriate venues, coordinating with speakers, managing attendees, and ensuring successful execution of events.
- Provided support to Erik Solheim, the former Executive Director of UNEP, by assisting with political briefings and preparing his daily schedule. Played a critical role in facilitating the efficient operation of the Executive Director's office by managing communication, organizing meetings, and maintaining information flow.

United Nations Development Program   *Beijing, China*

Intern   *Nov. 2016 - Jun. 2017*

- Played a key role in the organization of events promoting sustainable development, such as the United Nations Country Team Retreat 2017, World Environment Day 2017 held in Tongzhou, Beijing, and UN Environment Kubuqi Summer Camp.
- Supported the successful implementation of several UNDP projects, such as the UNDP-Rechsan sustainable rice cultivation project, UNDP-Rugao Hydrogen City project, and UNDP-JA Solar PV project.

PUBLICATION

Evolution of Government's Performance Through Yardstick Competition in the Spatial Game of Gubernatorial Elections
Tang, T., & **Zeng, K.*** (2018), Journal of Artificial Societies and Social Simulation, 21(2)

PROJECT

Practice-style spillovers in hospital care: evidence from lower extremity joint replacement surgery - Thesis
*by **STATA and Python***
This project evaluates the spillover effects of a random control trail (RCT) implemented by Centers of Medicare and Medicaid Services. The RCT changed the payment type and try to reduce the total cost of joint replacement process. This project use inpatient data from Centers for Medicare & Medicaid Services with over 3 million observations. Procedure level analysis was conducted by Causal Forest/DML Forest (EconML, Python) treating high dimensional data of over 1,000 variables. Treatment effects are identified using DiD and Causal Forest.
Presented @

- Southern Economics Association 92nd Annual Meeting, Nov 2022
- The Annual Conference of the American Society of Health Economists, June 2022
- RGS 15TH RGS Doctoral Conference in Economics
- Midwest Economics Association 86th Annual Meetings

ACHIEVEMENT

2021	**Fellowship**, Graduate Center Fellow, 2021 Fall, Graduate Center, CUNY, 12000 USD Grant * 2	*New York, USA*
2020	**Fellowship**, ARC fellowship, 2020 Spring, Graduate Center, CUNY, 5000 USD Grant	*New York, USA*

PROFESSIONAL ACTIVITIES

Reviewer: *Computational Economics*
Mentee: Committee on the Status of LGBTQ+ Individuals in the Economics Profession