

# YU-CHIEH (JESSE) KUO

ujkuo@ntu.im | <https://ujkuo.github.io>

## EDUCATION

### National Taiwan University

Taipei, Taiwan

B.B.A. in Information Management; GPA: 3.93 Magna cum laude

Sep. 2018 - Jun. 2023

- **Ph.D.-level Economics Courses:** Microeconomics, Econometrics (Python, Stata), Bayesian and Network Econometrics, Computational Methods for Econometrics (Python, R, Stata), Economic Analysis of Social Networks (Python, R).
- **Ph.D.-level Business Courses:** Game-Theoretic Approach Marketing, Information Economics, Platform Strategy.
- **Computer Science Courses:** Text Mining (Ph.D.-level; Python), Machine Learning (Ph.D.-level; Python), Data Structure and Advanced Programming (C++, Python), The Design and Analysis of Algorithms (C++, Python), Database (SQL).
- **Mathematics Courses:** Calculus, Real Analysis, Advanced Statistics (Ph.D.-level), ODE/PDE, Linear Algebra, Operations Research (Python), Convex Optimization (Ph.D.-level; Python), Machine Learning Theory (Ph.D.-level).

## RESEARCH EXPERIENCE

### Behavior and Data Science Research Center, National Taiwan University

Research Assistant to Professor Chih-Sheng Hsieh and C.Y. Cyrus Chu

Jun. 2022 - Present

- Implemented regressions to analyze the effect of big events and spillover in the MeToo movement after using a statistical estimation model to calibrate the normalized Google Trends data and build a complete two-year panel dataset.
- Employed the network analysis approach to examine suburbanization and rural labor performance in China by using SQL to utilize a large-scale telecom dataset with tens of billion entries for the communication networks of mobile phones.
- Worked on estimating the impact of users' friendship network sizes, behaviors, and patterns on users' selection of tariff plans, call durations, and cellphone models and extended to the marketing research.

### Department of Economics, National Taiwan University

Research Assistant to Professor Ming-Jen Lin, Yu-Chang Chen, and Hsin-Tien (Tiffany) Tsai in CCL Lab

Aug. 2023 - Present

- Conducted literature reviews in science funding and research evaluations, recommendation systems, e-commerce, and platform advertising auctions to initiate and extend current projects regarding e-commerce and science funding.
- Explored user behaviors and patterns and their purchasing results by using data from a large e-commerce platform.

### Department of Information Management, National Taiwan University

Research Assistant to Professor Chih-Ping Wei

Jun. 2022 - Feb. 2023

- Conducted literature reviews in economics, management, marketing, and finance applying sentiment analysis.
- Worked on modeling the confidence level of information from online reviews toward varying sentiment and arousal.

## INDEPENDENT RESEARCH

### Online Learning Behavior, Peer Effects, and Education

Term Project for Economics Analysis of Social Networks

Spring 2022

- Proposed an interdisciplinary research project combining economics, computer science, education and learning science and aiming at uncovering the relationship between the offline peer effects and online learning behavior.
- Surveyed 40+ pieces of literatures from different fields to establish the research objectives, impacts, and methodologies.
- Sought the collaboration positively with NTU COOL, an online platform providing professors and students at National Taiwan University to hold courses and learn online, to obtain large-scale online student learning behavior data.

### Political Sentiment Analysis: A Survey of U.S. Media's Attitude toward China Before and After the Presidential Election

Term Project for Text Mining

Fall 2021

- Investigated the media's attitude before and after the presidential election in the U.S. using sentiment analysis after surveying five pieces of literature and found accessible data sources and APIs.
- Polished pre-collected 6000+ Twitter data and examined the text's cosine similarity with TF-IDF and word embedding.
- Experimented with the performance of different natural language analysis and sentiment analysis packages and methods, then verified the sentiment change of medias and found the semantic differences between pre-/post-election articles.

### Online-Offline Retailing Cooperation with BOPS Scheme under Price Competition

Term Project for Information Economics

Spring 2021

- Surveyed tens of literature related to the topics of cooperation and competition between online and offline retailers and their relationships, especially the adoption of the BOPS (Buy Online and Pick up in-Store) strategy.
- Formulated a game-theoretic model to analyze the cooperation relationship between online and offline retailers.
- Discussed the firm's efficiency and incentive compatibility to derive the conditions for successful cooperation.

## SKILLS

**Programming:** Python, Stata, R, Julia, shell scripts, SQL, C++, Git/Github, Markdown,  $\LaTeX$ .

**Python Package:** NumPy, pandas, Polars, Matplotlib, TensorFlow, PyTorch, NLTK, scikit-learn, SciPy, statsmodels, BERT, pytrends, Requests, beautifulsoup4, CVXPY, RegEx, Gurobi, NetworkX.

**Languages:** Mandarin (Native), Taiwanese (Native), English (Fluent).