

# YU-CHIEH (JESSE) KUO

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## EDUCATION

### National Taiwan University

Taipei, Taiwan

B.B.A. in Information Management; GPA: 3.98/4.30

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, Statistics (Python), 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 Professor *C.Y. Cyrus Chu*

Jun. 2022 - Present

- Used a statistical estimation model to calibrate the normalized raw search records for over 500 suspicious celebrities cleaned and extracted from Google Trends to build complete two-year panel data to initiate further analysis.
- Developed and implemented regressions to analyze the effect of big events and spillover in the MeToo movement.
- Established and visualized large-scale networks from 14GB Taiwanese companies' and 200GB telecom's datasets.

### 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 five pieces of literature related to the topics of competition between retailers and online-offline 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,  $\text{\LaTeX}$ .

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

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