

# Yu-Chieh Jesse Kuo

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## Education

### National Taiwan University (NTU)

Taipei, Taiwan

B.B.A. IN INFORMATION MANAGEMENT

September 2018 - June 2023

- **Ph.D. Economics Courses:** Microeconomic Theory, Computational Methods for Econometrics, Economic Analysis of Social Networks, Econometric Theory, Topics in Economics and Econometrics.
- **Ph.D. Management Courses:** Information Economics, Platform Strategy, Marketing Models: Game-Theoretic Approach.
- **Computer Science Courses:** Introduction to Text Mining(Ph.D. level), Machine Learning(Ph.D. level), Data Structure and Advanced Programming, The Design and Analysis of Algorithms, Database Management, System Analysis and Design.
- **Mathematics Courses:** Calculus, Statistics, Advanced Statistics(Ph.D. level), Statistics, ODE/PDE, Linear Algebra, Operations Research, Convex Optimization(Ph.D. level).

## Research/Teaching Experience

### Research Assistant

Department of Economics, NTU

WORKED WITH PROFESSOR **CHIH-SHENG HSIEH** AND PROFESSOR **C.Y. CYRUS CHU**

June 2022 - Present

- Organized over 500 suspicious celebrities related to the MeToo movement and collected searching records from Google Trends to build a complete 2-year panel data.
- Calibrated the normalized raw data from Google Trends using a statistical estimation method to enable further analysis.
- Designed and implemented the regressions to analyze the effect of certain significant events and spillover effects in the MeToo movement.
- Organized a large-scale Taiwanese companies' dataset with millions of entries.
- Conducted literature reviews of corporate finance applying social network analysis.

### Research Assistant

Department of Information Management, NTU

WORKED WITH PROFESSOR **CHIH-PING WEI**

July 2022 - Present

- Conducted literature reviews in economics, management, and financial applying sentiment analysis.
- Organized literature in topics, data type, data sources, and other fields to better leverage sentimental analysis approaches.

### Teaching Assistant

Operations Research, NTU

WORKED WITH PROFESSOR **LING-CHIEH KUNG**

March 2022 - June 2022

- Verified 3 assignments, 2 case studies, and the final exam and wrote 6 corresponding solutions with the rigorous mathematical statement and one additional assignment writing guidance to help and encourage students.
- Built a course-oriented L<sup>A</sup>T<sub>E</sub>X class file and corresponding document to modularize and accelerate the file writing process.
- Graded over 300 assignments and 100 exam papers in a few days and managed grades for 100 enrolled students.
- Summarized precautions and details for the TA's work of this course in a handover document to help the TA in the future.

## Independent Research

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

Economic Analysis of Social Networks

AUTHOR

Spring 2022

- Proposed a novel and interdisciplinary research combining economics, computer science, and learning science.
- Surveyed 40 literatures over three 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 behavior data.

### Modeling the Optimal Vehicle Scheduling for YouBike2.0 for NTU Campus

Operations Research

AUTHOR, TEAM LEADER & PRESENTER

Spring 2020

- Modeled the optimal vehicle schedule route for in-campus shared bicycles by linear and integer programming and graph theory.
- Designed the algorithm to implement the optimization problem and visualized the optimal routes.
- Served as the project leader and assigned works and due time properly.

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

Information Economics

CO-AUTHOR & PRESENTER

Spring 2021

- Surveyed 5 papers related to the topics of competition between retailers, and online-offline relationship, 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.

## Political sentiment analysis based on social media: A survey of U.S. media's attitude toward China before and after the presidential election

Introduction to Text Mining

Co-AUTHOR

Fall, 2021

- Proposed 3 research questions and directions after surveying 5 research papers.
- Studied the performance of sentence embeddings from different natural language analysis and sentiment analysis packages to determine the package to use.
- Explored and compared the text's cosine similarity with TF-IDF and word embeddings from pre-collected 6000 tweets.

## Extracurricular Activity

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### Director of Academic Department

NTUIM Student Association

AT NTU AZALEA FESTIVAL

2021, 2022

- Led a team of 5 members to survey 20 courses in the department and write a detailed introductory document over 5000 words to promote the department in the largest university expo in Taiwan.
- Established the key direction of introduction and adopted the agile development method to set targets and due time to secure the work progress.
- Provided a 5 minutes live presentation online based on the document.

### Project Manager

Speech Lab, NTU

WORKED WITH PROF. LIN-SHAN LEE

Feb. 2019 - Dec. 2021

- Organized various data over thousands items for Professor Lin-Shan Lee's archive website and developed new contents.
- Communicated with 10 members and the professor and organized different tasks varying from website development to UI/UX design.
- Established and optimized the workflow by adopting productive tools such as Notion, CI/CD, Jira, etc.

### Academic Mentor

Taipei, Taiwan

COLLABORATED WITH OVER 20 STUDENTS AND PARENTS

Aug. 2018 - Present

- Guided over 20 students for 10 subjects to improve their grades from the average to the top 10 in class.
- Employed the communication skills with empathy to defuse the family crisis.

## Skills

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<b>Programming</b>	Python, R, Stata, shell scripts, SQL, C++, Git/Github, $\LaTeX$
<b>Python Package</b>	Numpy, Pandas, Matplotlib, Tensorflow, torch, nltk, Sklearn, Scipy, Statsmodel, BERT, pytrend, cvxpy, gurobi, NetworkX
<b>Language</b>	Chinese(Mandarin), English
<b>Soft Skills</b>	Interpersonal coordination, Leadership, Curiosity, Passion, Task Management