HSU, Ke-Cheng (Clio)

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Professional Summary

PhD candidate in Economics at HKUST, based in Hong Kong. Scrapes, cleans, and consolidates very large retail and e-commerce records into analyzable datasets, estimates demand, pricing, and margins, and presents the patterns in charts, tables, and weekly HTML reports on a fixed deadline. Works in Python, R, C++, Excel, and PowerPoint; uses Copilot and Cursor daily for data extraction, drafting, and coding, with every output checked against the source. Undergraduate minor in actuarial mathematics. Seeking a commercial analysis internship.

Education

The Hong Kong University of Science and Technology, Hong Kong

Doctor of Philosophy in Economics — Expected Graduation: June 2027

Master of Philosophy in Economics, CGA: 4.1/4.3 — 2020–2022

Bachelor of Science in Mathematics and Economics, Minor in Actuarial Mathematics, CGA: 3.9/4.3 — 2015–2019

Awards: University Scholarship (730K HKD); Academic Achievement Medal (top 1%); Postgraduate studentship (1.5M HKD); Redbird scholarship (40K HKD).

Experience

Research Assistant, National Taiwan University — 2020

- Built a MATLAB model of a bank crisis on an interbank lending network, as a negotiation between the regulator and the banks' creditors, who share losses only if the regulator's no-bailout threat is credible; found that less tightly linked networks make that threat more credible in a large shock.

Teaching & Leadership Roles, HKUST — 2020–present

- Lecturer for MSc Math Camp (rated 4.53/5); TA for PhD and undergraduate economics (avg 4.72/5).
- Teaching Assistant Coordinator, Business School (2025–2026): coached and evaluated a team of teaching assistants on teaching materials and mock lectures.
- Hall Tutor, UG Hall I (2024–present): mediated resident conflicts and led orientation, workshops, and career talks.

Projects

Pricing and Inventory in Japanese Book Retail *(w/ K. Kawaguchi, HKUST & UTokyo Econ Consulting; K. Kawai, U. Tokyo & Compass Lexecon)*

- Modeled how competing bookstores set prices and hold stock when demand is uncertain and the retail price is fixed in advance; unsold copies are returned and 35–40% of print runs are discarded.
- Cleaned point-of-sale records from 1,000+ stores (hundreds of billions of observations) into a dataset by title, city, and month, adding population figures and book details scraped from Amazon in Python.
- Estimated demand and supply costs by non-linear optimization; wrote tests and simulated datasets to confirm the pipeline produces the right numbers, with heavy computation in C++.
- Ignoring inventory and uncertain demand overstates cost by about 20% and would misstate margins, a correction that changes a company's assessed value. Delivered as figures, tables, and a weekly HTML report on a fixed deadline.

Pricing and Returns in Apparel E-Commerce *(Taobao, 2017–2023)*

- Built a structural model of purchase, insurance, and return decisions under seller pricing for a Taobao apparel retailer that switched between automatic return-shipping insurance (seller-paid) and optional, buyer-purchased insurance (2017–2023; about 62 million RMB; six categories; 20–30% of orders returned).
- Automated data extraction with a Python scraper and an API, converting product images into analyzable text.
- Estimated the model by the generalized method of moments in a tested pipeline (Git for version control; Python, R, and C++ on AWS and a SLURM cluster), obtaining category-specific purchase values, demand uncertainty, and return responses.
- A stricter return policy curbs wasteful returns but also blocks worthwhile purchases: automatic insurance works best at high margins, while optional insurance wins at thin margins, by 15–30 percentage points of the best-possible outcome (about 50 percentage points in the thinnest category).
- Designed a new what-if policy (discounted price plus a 10–15% restocking fee) that beats both existing policies in most categories, attaining 75–78% of the best-possible outcome.

Skills

Languages: Mandarin (Native), English (Fluent), Cantonese (Basic).

Technical: Python, R, MATLAB, Stata, C++, Git, Microsoft Excel, PowerPoint, Word, HTML, LaTeX, AWS, HPC/SLURM; web scraping; structural estimation, statistical inference.

AI tools: Daily use of Copilot and Cursor for data extraction, coding, and drafting; every output checked against the source data.

References: Kei Kawai (UTokyo), Kohei Kawaguchi (HKUST), Pak Hung Au (HKUST).