Shotaro Beppu

PROJECT ASSOCIATE · UCHICAGO URBAN LABS E&E LAB

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Education

Massachusetts Institute of Technology (MIT)

MASC IN DATA, ECONOMICS AND DEVELOPMENT POLICY   *'23/02 - '23/08*

- Capstone supervisor: Dave Donaldson, Tobias Salz

The University of Tokyo

BACHELOR IN ENGINEERING (SYSTEMS ENGINEERING)   *'19/04 - '23/03*

- Advisor: Yasuyuki Sawada (Econ), Akihiko Matsui (Econ), Ryuichi Shibasaki (Eng)

Research Papers

The impact of steamships on shipping and trade

UNDERGRADUATE THESIS ADVISED BY RYUICHI SHIBASAKI (UNIV. TOKYO)

- Digitize shipping data in historical tables using deep learning (Graph Neural Network)
- Analysis of transition from sailing to steamships
- Estimate the effect of transition on trade and growth

Diffusion of war through international arms trade

INDEPENDENT PROJECT ADVISED BY YASUYUKI SAWADA AND AKIHIKO MATSUI (UNIV. TOKYO)

- Formulate a model of international arms trade and probability of conflict
- Estimate effect of weapons on war using end of conflict in other regions as an instrument

Uncovering the border-crossing cost in transportation

GROUP PROJECT ADVISED BY YASUYUKI SAWADA (UNIV. TOKYO)

- Fieldwork in the Philippines investigating tricycle behavior
- Investigate the effect of zoning by tricycle groups on price

Stability of trading blocs

TWO-WEEK RESEARCH PROJECT ADVISED BY GEORGE CHARLSON (UNIV. CAMBRIDGE)

- Formulate a network model to test stability of trading blocs
- Simulate possible paths of trading blocs

Publications

Beppu, S., Fujii, D., Kubota, H., Machi, K., Maeda, Y., Nakata, T., & Shibuya, H. 2023. Cross-regional heterogeneity in health and economic outcomes during the COVID-19 pandemic: An analysis of Japan. *Journal of the Japanese and International Economies*, 70.

Thu, M. K., **Beppu, S.**, Yarime, M., & Shibayama, S. 2022. Role of machine and organizational structure in science. *PLOS ONE*, 17(8).

Research Experience

Research Assistant

ADVISOR: DAVE DONALDSON (MIT)   *'23*

- Analysis of crop productivity and trade
- Analysis of agglomeration effect in the Midwest

Research Assistant

ADVISOR: TOBIAS SALZ (MIT)   *Summer '23*
- Analysis of RCT switching some user's default search engine
- Estimate effect of incumbency and default switch

Research Assistant

ADVISOR: YASUYUKI SAWADA (UNIV. TOKYO)   *'21-'22*
- Replication of multiple RCTs in education and conduct additional tests
- Analyze satellite data to construct road network and analyze weather
- Fieldwork in the Philippines

Research Assistant

ADVISOR: TAISUKE NAKATA (UNIV. TOKYO)   *'21-'22*
- Weekly projection of COVID-19 statistics using macro-epidemiological model
- Estimate value of statistical life using the pandemic
- Investigate effect of restriction policies on restaurants and diffusion of the virus

Professional Experience

UChicago Urban Labs E&E Lab

PROJECT ASSOCIATE   *'23/09-Present*
- Create ML algorithm to predict pollution violation
- Analysis of satellite imagery for pollution detection

U-Tokyo Matsuo Lab

ML ENGINEER   *'21/10-'22/12*
- Create ML algorithm to predict viewers
- Estimate the effect of commercials on viewers
- Implement optimization problem for commercial allocation

The University of Tokyo Market Design Center (UTMD)

INTERN   *'22/08-'22/11*
- Implement serial dictatorship algorithm for university's study abroad program
- Simulate possible mechanism change for better match outcomes

World Bank DIME

INTERN   *'21/06-'22/02, '22/06-'22/08*
- Conduct NLP to clean and extract variables from surveys
- Use LLM to vectorize judicial texts for bias analysis
- Scrape Google trends data to investigate Ramadan effect on personal behavior
- Code up surveyCTO and ShinyR for DIME recruitment drive

Awards & Fellowships

2023   **Dean's Award for the Department of Engineering (1st/129)**, The University of Tokyo
        Scholarship for Mid- to Long-Term Studies, Friends of UTokyo, Inc

2021   **Scholarship for Short-Term Studies**, Friends of UTokyo, Inc
        GLP-GEfIL Scholarship, The University of Tokyo

Skills & Other Interests

LANGUAGE

Japanese (native), English (TOEFL 112), French (Basic)

PROGRAMMING

R, Python, STATA, MATLAB, Java

Other Interests

Cycling, football (soccer), rowing
Ancient Rome, Greek, Japanese history