TU NI

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RESEARCH SUMMARY

My research focuses on empowering business experimentation in the era of data science and AI. As companies increasingly developing new algorithms and making product changes — at a much faster pace than traditional domains like healthcare or social sciences, there is a growing need to rethink how experiments are executed and used in operations. I study two key aspects of this pipeline: how to design experiments efficiently in complex, dynamic business environments, and how to leverage experimental data to guide better operational decisions. **I will be presenting at the INFORMS 2025 in the session: "Experimentation in Operations: Design, Estimation and Decision" on Sunday, October 26, 8:00 AM - 9:15 AM, Room B216**.

EDUCATION

National University of Singapore *Aug.2018 - Aug.2023*
Ph.D. in Operations Research and Analytics
Institute of Operations Research and Analytics
Advisors: Chung-Piaw Teo, Long He

University of California, Berkeley *Aug.2016 - Jun.2017*
M.Eng. in Industrial Engineering and Operations Research
College of Engineering

Zhejiang University *Aug.2012 - Jun.2016*
B.S. in Mathematics and Applied Mathematics
School of Mathematical Science

EXPERIENCE

Harvard Business School *Nov.2023 - present*
Postdoctoral Research Fellow

SF Express, China *Aug.2017 - Jul.2018*
Operations Research Engineer

PUBLISHED PAPERS

Crowdstarting a Shared Shuttle Service with User Suggestions – Long He, Tu Ni

- Accepted at *Production and Operations Management*

WORKING PAPERS

Design of Panel Experiments with Spatial and Temporal Interference – Tu Ni, Iavor Bojinov, Jinglong Zhao

- Under Major Revision at *Management Science*
- Accepted at MSOM SIG 2024
- Accepted at MIT CODE 2022, NeurIPS 2022, ACIC 2023

Decision Analytics of Switchback Experiments: A Robust Optimization Approach – Tu Ni (solo-work)

- Under Major Revision at *Manufacturing and Service Operations Management*

Enhancing Efficiency and Robustness of Switchback Experiments: A Practical Model-assisted Framework – Tu Ni, Iavor Bojinov

- Under Review at *Operations Research*
- Accepted at MSOM SIG 2025

The Interplay between Design and Analysis of Experiments under Complex Environments – Tu Ni (discussion article)

- Under Major Revision at *Harvard Data Science Review*

Reliable Switchback Experiments for Auction Environments at Procter & Gamble – Tu Ni, Eleni Kalfountzou, Iavor Bojinov

- Under Preparation for *Manufacturing and Service Operations Management*

The Value of Flexibility in Sequential Experiments – Huijun Zhu, Yifan Feng, Tu Ni

- Under Preparation for *Manufacturing and Service Operations Management*

WORK IN PROGRESS

Sparse Design of Joint Allocation and Fulfillment Network with Hanzhang Qin, Chung Piaw Teo

Data Combination in Inventory Experiments with Chonghuan Wang

Non-parametric Approach for Data Aggregation with Long He, Zhengling Qi

Reducing Recommendation Inequality in Two-sided Platforms with Stable Matching with Juan He, Chung Piaw Teo, Hai Wang

TEACHING

Instructor

- Decision Analytics using Spreadsheets, NUS Business School, Semester 1, 2021-2022
  - Undergraduate Core Module with Class Size 50
  - Won the *Teaching Excellence Award* with Teaching Evaluation: 4.6/5.0 (Department Average 4.0/5.0)

Teaching Assistant

- Decision Analytics, NUS Business School, Semester 2, 2019-2020
- Predictive Analytics, NUS Business School, Semester 1, 2019-2020

SERVICES

Organizing Committee – Experimentation and Evaluation in Operations Workshop 2025
Session Chair – POMS Conference 2024, 2025
Session Chair – INFORMS Annual Meeting 2024, 2025
Session Chair – ACIC 2024, 2025
Organizing Committee Chair – Analytics for X Conference 2022
Reviewer – Management Science(2), MSOM 2025, NeurIPS 2024, 2025, ACIC 2024, 2025, AISTATS 2025, ICLR 2025, ICML 2025

REFERENCES

- Chung Piaw Teo (bizteocp@nus.edu.sg): Provost Chair Professor of Analytics and Operations at NUS Business School.
- Long He (longhe@gwu.edu): Associate Professor of Decision Sciences at the School of Business, George Washington University.
- Iavor Bojinov (ibojinov@hbs.edu): Associate Professor of Technology, Operations and Management at Harvard Business School.
- Jinglong Zhao (jinglong@bu.edu): Assistant Professor of Operations Management at the School of Business, Boston University.