Donghao Zhu

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ACADEMIC POSITION

The Institute of Statistical Mathematics, Japan   2023 –
Research Fellow, Research Center for Statistical Machine Learning
Advisor: Prof. Dr. Kenji Fukumizu

EDUCATION

Technical University of Munich, Germany   2019 – 2023
School of Computation, Information and Technology/School of Management
Ph.D. candidate in Computer Science and Operation Research
Advisor: Prof. Dr. Martin Bichler and Prof. Dr. Stefan Minner

The University of Tokyo, Japan   2016 – 2019
Graduate School of Arts and Sciences
M.Sc. in Multidisciplinary Sciences (Math & Computer Sciences)
Advisor: Prof. Dr. Akira Kakimura and Prof. Dr. Naonori Kakimura

SooChow University, China   2012 – 2016
B.A. in Engineering (Honors Program)

RESEARCH INTERESTS

OM/OR Topics: Platform design, Matching, Queueing, Data-driven Decision, Policy & data analysis
Methodology: Stochastic modeling, Optimization, Agent-based simulation, Machine learning
Theoretical Computer Science: Complexity analysis, Approximation algorithm design

WORKING PAPERS

1. **D. Zhu**, S. Minner, M. Bichler. Platform Information Design for On-Demand Service Platforms: A Queueing-Theoretic Approach. Under Review, 2023.
   - Manufacturing & Service Operations Management (*MSOM*) Conference, Munich, Germany, 2022.
   - Information-Based Induction Sciences Workshop (*IBIS*), Tokyo, Japan, 2022.
   - Personal talk at Tokyo Institute of Technology, Tokyo, Japan, 2022.
   - Personal talk at Keio University, Tokyo, Japan, 2022.
   - Personal talk at Aoyama Gakuin University, Tokyo, Japan, 2022.

(Author ordering is alphabetical in the following.)

2. J. Bäumler, M. Bullinger, S. Kober, **D. Zhu**. Superiority of Instantaneous Decisions in Thin Dynamic Matching Markets. Under Review, 2023.
   - ACM Conference on Economics and Computation (*EC*), London, UK, 2023.
   - The University of Tokyo Market Design Center (*UTMD*) Seminar, Tokyo, Japan, 2022.
   - Personal talk at Tokyo Institute of Technology, Tokyo, Japan, 2022.
   - Personal talk at Keio University, Tokyo, Japan, 2022

3. N. Kakimura and **D. Zhu**. Dynamic Bipartite Matching Markets with Arrivals and Departures. In Preparation for a Re-Submission, 2023.
   - ACM Conference on Web and Internet Economics (*WINE*), Virtual, 2021.
   - Personal talk at Tokyo Institute of Technology, Tokyo, Japan, 2022.
   - Personal talk at Keio University, Tokyo, Japan, 2022.

PROCEEDINGS

(Author ordering is alphabetical in the following.)

1. J. Bäumler, M. Bullinger, S. Kober and **D. Zhu**. Superiority of Instantaneous Decisions in Thin Dynamic Matching Markets. *ACM EC*, 2023.

2. N. Kakimura and **D. Zhu**. Dynamic Bipartite Matching Market with Arrivals and Departures. *ACM WINE*, 2021.

WORK-IN-PROGRESS

Available upon request.

STUDENT ADVISING

Master Thesis:
1. "Dynamic Pricing Problem on Platform: Considering Relocation", Management, TUM.   2022
2. "Flexible Batching in a Freight Exchange Platform", Math, TUM.   2020

Bachelor Thesis:
1. "The Housing Market under a Supply Shortage", Informatics, TUM.   2021
2. "Analysis of Business Models in the Sharing Economy", Informatics, TUM.   2020
3. "Investigation of Batching Algorithms in Online Matching Markets", Informatics, TUM.   2020

TEACHING EXPERIENCE

Seminar:
1. Advanced Seminar Operations & Supply Chain Management at TUM   2021
   - Topic: "One-to-one Matching Market: Pricing in Ride-hailing Platforms"
   - Topic: "One-to-one Matching Market: a Survey"

WORKING EXPERIENCE

Research Assistant, ERATO Kawarabayashi Large Graph Project, National Institute
of Informatics, Japan   2017 − 2019

ACADEMIC SERVICE

Journal Referee: *International Journal of Production Economics*
Session Chair: *MSOM* Conference 2022
Conference Organization Assistance: Workshop on Information Technologies and Systems (*WITS*) 2019

SKILLS

Programming/Software: Python, C, Gurobi, Julia, html, LaTeX, Matlab
Language: English (fluent), Japanese (conversation), Chinese (native)

REFERENCES

Available upon request.