

# Donghao Zhu

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## ACADEMIC POSITION

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### The Institute of Statistical Mathematics, Japan

2023 –

Research Fellow, Research Center for Statistical Machine Learning

Advisor: Prof. Dr. Kenji Fukumizu

## EDUCATION

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### 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

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*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

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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. Bäumlér, 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

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(Author ordering is alphabetical in the following.)

1. J. Bäumlér, 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

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Available upon request.

## STUDENT ADVISING

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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

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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

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

## ACADEMIC SERVICE

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Journal Referee: *International Journal of Production Economics*

Session Chair: *MSOM* Conference 2022

Conference Organization Assistance: Workshop on Information Technologies and Systems ( *WITS* ) 2019

## SKILLS

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Programming/Software: Python, C, Gurobi, Julia, html, L<sup>A</sup>T<sub>E</sub>X, Matlab

Language: English (fluent), Japanese (conversation), Chinese (native)

## REFERENCES

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Available upon request.