

Zhicheng ZHANG — CV

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“There is nothing certain, but the uncertain.” — Proverb

Z. Zhang is currently a Ph.D Candidate (Informatics) at Osaka University. His research interests include sparse modeling, robust optimization and networked control. He is a student member of SIAM, INFORMS and IEEE.

Education

Osaka University Ph.D Candidate, Informatics Fields: Probabilistic Control under Uncertainty Advisor: Prof. Yasumasa Fujisaki	Osaka, Japan 2020.10 – present
University of Kitakyushu Visiting Master Student, EECS Fields: Sparse Modeling and Optimal Control Advisor: Prof. Masaaki Nagahara	Fukuoka, Japan 2019.09 – 2020.09
Guilin University of Electronic and Technology M.S., Mathematics Fields: ODEs and Dynamical Systems Theory Advisor: Prof. Zhongjun Ma	Guilin, China 2017.09 – 2020.06
Changzhou Institute of Technology B.A., Japanese (Major) B.S., Applied Mathematics (Minor)	Changzhou, China 2013.09 – 2017.06

Research Interests

- Decision Making under Uncertainty
 - ♣ Robust optimization
 - ♣ Stochastic Programming
- Sparse Modeling
 - ♣ Sparse Optimization
 - ♣ Sparse Optimal Control
- Networked Control
 - ♣ Consensus of Multi-Agent Systems
 - ♣ Synchronization of Complex Networks

Honors and Awards

- 2020 Guangxi Outstanding Graduates, China, 2020 (top 1%)
- Outstanding Master's Thesis of GUET, China, 2020 (top 3%)
- Postgraduate Scholarship, First Prize, GUET, China, 2019, 2020 (top 3%)
- Graduate Fellowship for Study Abroad, GUET, China, 2019
- National Scholarship for Master's Student, China, 2019 (top 3%)

Research Projects and Academic Foundations

Practical Stability of Nonlinear Dynamical Systems

Collaborator, School of Mathematics and Computing Science, GUET 2017.10 – 2018.06

- The Innovation Project of GUET Graduate Education, Grant No. 2017YJCX79 (CNY 10,000)

Stability of Impulsive Ordinary Differential Equations and its Applications

Co-Investigator (CI), School of Mathematics and Computing Science, GUET 2018.10 – 2019.06

- The Innovation Project of GUET Graduate Education, Grant No. 2018YJCX60 (CNY 10,000)

Intermittent Feedback Control of Nonlinear Multi-Agent Systems

Principal Investigator (PI), School of Mathematics and Computing Science, GUET 2018.12 – 2020.06

- Cultivation of Excellent Thesis Project of GUET Graduate Education, Grant No. 2018YJSPY01 (CNY 10,000)

Cooperative Control of Multi-Agent Networked Systems

Principal Investigator (PI), School of Mathematics and Computing Science, GUET 2019.09 – 2020.08

- The Study Abroad Program for Graduate Student of GUET, Grant No. GDYX2019015 (CNY 120,600)

Partial Component Synchronization of Nonlinear Networks and its Control Applications

Collaborator, School of Mathematics and Computing Science, GUET 2019.01 – 2021.12

- Guangxi Natural Science Foundation, China, Grant No. 2018GXNSFAA281068 (CNY 50,000)

Partial Variable Stability of Neural Networks

Collaborator, School of Mathematics and Computing Science, GUET 2020.03 – 2021.06

- The Innovation Project of GUET Graduate Education, Grant No. 2020YJSCX03 (CNY 5,000)

Positions of Responsibility

- **Teaching Assistant** for Undergraduate courses like *Mathematical Analysis*, *Advanced Algebra*, and *Calculus*.
- **Teaching Assistant** for Graduate courses like *operations research*, and *research seminars*.

Professional Service

Reviewer (Journals)

- International Journal of Robust and Nonlinear Control (IJRNC)
- IEEE Transactions on Systems, Man and Cybernetics (IEEE TSMC)

Reviewer (Conferences)

- IFAC Symposium on Robust Control Design (ROCOND 2022)
- IFAC World Congress (2023)

Publications

Peer Review Journals

[J2] Z. Zhang, Z. Ma, Y. Wang and K. Li, Wait-and-track characteristics for a generic multiagent system under control input attacks, *IEEE Transactions on Network Science and Engineering*, 2023. (accepted)

[J1] Z. Zhang, Z. Ma and Y. Wang, Partial component consensus of leader-following multi-agent systems via intermittent pinning control, *Physica A: Statistical Mechanics and its Applications*, 2019, 536: 122569. Doi: 10.1016/j.physa.2019.122569.

Proceeding Conferences

[C4] Z. Zhang and Y. Fujisaki, Risk-aware sparse predictive control, IFAC Word Congress, July 2023. (to be presented)

[C3] Z. Zhang and Y. Fujisaki, Sparse feedback control realization using linear dynamic compensator, SICE ISCS, Mar. 2023.

[C2] Z. Zhang and Y. Fujisaki, Sparse robust control design via scenario optimization, ISCIE SSS, Oct. 2021.

[C1] Z. Zhang and M. Nagahara, Linear quadratic tracking control with sparsity-promoting regularization. *2021 American Control Conference (ACC)*, IEEE, May 2021. pp. 3812–3817.

Preprints

[P2] Z. Zhang and Y. Fujisaki, Sparse feedback controller: From open-loop solution to closed-loop realization. *SICE Journal of Control, Measurement, and System Integration*, arXiv.2303.15175. (under review)

[P1] Z. Zhang and Z. Ma, Lag synchronization for large-scale complex networks under stochastic input disturbances, *Chaos: An Interdisciplinary Journal of Nonlinear Science*. 2022, (under review)

Technical Strengths

- **Languages:** Chinese (native), Japanese (N2), and English (fluent).
- **Skills:** \LaTeX , Matlab, Python, Julia

Personal Information

- Born in Dec. 1994, in Jiangsu Province, China
- Citizenship: Chinese