

Xinxian Guo

PH.D. STUDENT IN SYSTEMS THEORY · RESEARCHER IN GAME THEORY AND OPTIMIZATION

Haidian District, Beijing, China

✉ +86 152 6352 4208 | ✉ guoxinxiang@amss.ac.cn | ✉ xinxiang-guo.github.io/ | ✉ Xinxiang Guo



Education

University of Chinese Academy of Sciences

Ph.D. IN SYSTEMS THEORY, MATHEMATICS, ADVISED BY PROF. YIFEN MU

Sep 2023 – Jun 2026

Beijing

National University of Singapore

EXCHANGE RESEARCH STUDENT IN ECONOMICS, VISITING PROF. YINGKAI LI

Jul 2025 – Jan 2026

Singapore

University of Chinese Academy of Sciences

M.S. IN COMPUTATIONAL MATHEMATICS, MATHEMATICS, ADVISED BY PROF. YIFEN MU

Sep 2020 – Jun 2023

Beijing

Jilin University

B.S. IN INFORMATION AND COMPUTING SCIENCE, MATHEMATICS, ADVISED BY PROF. RUI WANG

Sep 2016 – Jun 2020

Changchun, Jilin

Interests

My research interests lie at the intersection of algorithmic game theory, optimization, and reinforcement learning, with a unifying focus on advancing intelligent decision-making—an area driving my deep academic passion.

I analyze the evolutionary behavior of heterogeneous agents in repeated games and investigate the efficiency of heterogeneous learning in computing equilibria. I am also interested in the problem of algorithmic exploitation in repeated games and practical applications of mean-field game theory.

Publications

- **Guo X**, Mu Y. Optimal strategy against Hedge. *Journal of Global Optimization*, 2025.
- **Guo X**, Mu Y, Yang X. Periodicity in hedge-myopic system. *Dynamic Games and Applications*, 2025
- **Guo X**, Mu Y, Yang X. Dynamical games driven by Hedge and myopic best response. *CDC 2024*
- **Guo X**, Mu Y. Regularized minimax-V learning in markov games. *FAW 2025*
- **Guo X**, Mu Y. Taking myopic best response against Hedge. *CCC 2023*
- **Guo X**, Mu Y. DTHBR: An asymmetric NE-solving paradigm. *CCC 2025*
- **Guo X**, Zhang J et al. Regularization in heterogeneous learning dynamics. Working paper.
- Zhang J, **Guo X** (Co-first Author) et al. Heterogeneity in time-varying games. *AAMAS 2026* (Submitted)

Conferences

- IEEE CDC 2024, Milano, Dec 2024
- GAMES 2024, Beijing, Aug 2024
- ICM 2022 "Game Theory and Applications", Online, Aug 2022
- Chinese Control Conference 2025, 2024, 2023, 2022

Honors & Awards

- UCAS Outstanding Student: 2021, 2023, 2025
- National Scholarship for Master Students: Sep 2022