

Xiaotian WANG

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Flat 1, 12 Courtfield Gardens, London, SW5 0PL, UK

Educational Background

Imperial College London

Sep. '23-now

PhD Student in Electrical and Electronic Engineering

Advisor: Prof. Angeli, David

Research topic: Nonlinear Consensus Dynamics and Applications

Awards:

- President's PhD Scholarships 2023

July.'23

Huazhong University of Science and Technology

Sep. '19-Jun. '22

Master of Control Science and Engineering

GPA: 87.7/100

Advisor: Prof. Su, Housheng

Core courses: Linear System Theory, Theory of Matrices, Optimum Control, Optimization Theory and Algorithms, Mathematical Statistics.

Awards:

- Outstanding Graduate of HUST
- Merit Postgraduate
- First-class Scholarship for Postgraduates
- Third Prize of Zhixing Scholarship

May.'22

Dec.'20

Nov.'19, Nov.'21

Dec.'21

Wuhan University of Technology

Sep. '15-Jun. '19

Bachelor of Automation

GPA: 91.9/100

Core courses: Automatic Control Theory, Modern Control Theory, Motion Control System, Circuit Principle, Advanced Mathematics, Complex Variable Function and Integral Transform.

Awards:

- Outstanding Graduate of WHUT
- Merit Student

Jun.'19

Nov.'16, Nov.'17, Nov.'18

Work Experience

Multiagent Network Games with Transmission Constraints

Mar.'23-Aug.'23

The University of Hong Kong, Hong Kong

Research Associate

Advisor: Prof. Lam, James

Research Experiences

Transmission-Constrained Consensus of Multiagent Networks

Nov.'20-Apr.'22

Huazhong University of Science and Technology, Wuhan

- A novel model of multiagent systems is proposed where the information transmissions between agents are disturbed by irregular distortions or interferences.
- Obtained the necessary and sufficient conditions that agents can converge to consensus; Proved the existence, uniqueness and stability of equilibrium points.
- Added noise distortions, and studied the robustness of multiagent systems with transmission constraints.
- The transmission-constrained consensus problem over random networks is proposed and studied.

Interval Coordination of Multiagent Networks with Antagonistic Interactions

Nov.'19-Mar.'21

Huazhong University of Science and Technology, Wuhan

- The interval consensus problem of multiagent systems with antagonistic interactions is first considered.

- Introduced the idea of a root node on a negative cycle to obtain the robustness of multiagent systems under signed networks.
- Extended the individual interval constraint to interval constraint in transmission.
- To prove the uniqueness of equilibrium, we convert the uniqueness of equilibrium to the uniqueness of a system of nonlinear equations and apply the Perron-Frobenius theorem to obtain a contradiction.

Research on key Technologies and Equipment of UAV-USV Formation Cooperation

Guangdong HUST Industrial Technology Research Institute, Dongguan

Feb.'19-Jun.'19

- Established the dynamics of UAV and USV, respectively; Designed the formation controller.
- Introduced the distributed Kalman filtering to improve the measurement precision.
- Theoretically prove the effectiveness of the above algorithm, and participate in practical experiments.

Articles

Housheng Su, **Xiaotian Wang**, and Zhiwei Gao. "Interval coordination of multiagent networks with antagonistic interactions," *IEEE Transactions on Automatic Control*. Early Access

Xiaotian Wang and Housheng Su. "Robust Consensus of Multiagent Dynamics with Transmission Constraints and Noises," *IEEE Transactions on Network Science and Engineering*. Early Access

Xiaotian Wang and Housheng Su. "Consensus of multiagent with interaction distortions via echo control," *Information Sciences*. Published

Xiaotian Wang and Housheng Su. "Transmission-constrained consensus of multiagent networks," *IEEE Transactions on Control of Network Systems*. Early Access

Xiaotian Wang and Housheng Su. "Transmission-constrained consensus over random graphs," *IEEE Transactions on Cybernetics*. Early Access

Contests

2018 National Undergraduate Electronic Design Contest (Hubei Province),
Grand Prize, ranked **No.1**

Aug.'18, Wuhan

2018 National Undergraduate Electronic Design Contest - Analog System Design Invitation Contest
First Prize

Sep.'18, Nanjing

Update Date: April 29, 2024

Check the latest version from [XiaotianWangCV.github.io](https://github.com/XiaotianWangCV)