

# JINXIAN WU

Ph.D. Candidate

School of Automation

Beijing Institute of Technology (BIT)

No. 5, South Street, Zhongguancun, Haidian District, Beijing

☎ +86-18801365986

👤 [jinxianwu.github.io](https://github.com/jinxianwu)

✉ [jinxianwu@bit.edu.cn](mailto:jinxianwu@bit.edu.cn)

[sddpwjx@outlook.com](mailto:sddpwjx@outlook.com)

## STATEMENT

---

Jinxian Wu is a third-year Ph.D. student at the BIT. His research focuses on distributed model predictive control (DMPC), specifically on the iterative DMPC methods for linear/nonlinear systems with nonlinear coupled constraints or costs, and the distributed optimization methods for DMPC.

## EDUCATION

---

**Beijing Institute of Technology (BIT)**, Beijing, China

2022 - 2026 (expc.)

Ph.D. candidate in School of Automation

Research Directions: Optimization in DMPC; Iterative DMPC

Supervisor: Prof. Li Dai

**Beijing Institute of Technology (BIT)**, Beijing, China

2019 - 2022

M.Eng. in School of Automation, June 2022

Research Directions: Fuzzy clustering; Fuzzy association rule mining

Dissertation: Anti-noise Fuzzy Association Rule Mining Algorithm for Data in Manufacturing Industry

Supervisor: Prof. Li Dai

**Qingdao University (QDU)**, Shandong, China

2015 - 2019

B.Eng. in Automation, June 2019

## PUBLICATIONS ( \* : corresponding author)

---

### Journal Papers

- [J5] **Jinxian Wu**, Li Dai, Songshi Dou, & Yuanqing Xia. (2024). Accelerated Successive Convex Approximation for Nonlinear Optimization-Based Control, conditionally accepted by *IEEE Transactions on Automatic Control* as Technical note.
- [J4] **Jinxian Wu**, Li Dai, & Yuanqing Xia. (2024). Iterative Non-Convex Distributed MPC with Flexible Termination Strategy, conditionally accepted by *IEEE Transactions on Automatic Control* as **Full paper**.
- [J3] **Jinxian Wu**, Li Dai, & Yuanqing Xia. (2024). Iterative Distributed Model Predictive Control for Heterogeneous Systems with Non-convex Coupled Constraints. *Automatica*, 166, 111700, **(Regular Paper)**.

[J2] **Jinxian Wu**, Li Dai, & Yuanqing Xia. (2024). Iterative Distributed Model Predictive Control for Nonlinear Systems with Coupled Non-convex Constraints and Costs, *International Journal of Robust and Nonlinear Control*, 34(11), 7220-7244.

[J1] Li Dai, Yaling Ma, Runze Gao, **Jinxian Wu**, & Yuanqing Xia. (2023). Cloud-based Computational Model Predictive Control Using a Parallel Multi-block ADMM Approach. *IEEE Internet of Things Journal*, 10(12), 10326 - 10343.

### Conference Papers

[C2] Zixuan Fan, **Jinxian Wu**, Li Dai, & Yuanqing Xia. (2023). Trajectory Planning Based on MINVO Basis for Autonomous Vehicles in Lane Change Scenarios. In *Proceedings of the 2023 Chinese Control Conference*. IEEE.

[C1] **Jinxian Wu**, Li Dai, Yaling Ma, Weidong Zou, & Yuanqing Xia. (2021). Distributed Fuzzy Clustering Based Association Rule Mining: Design, Deployment and Implementation. In *Proceedings of the 2021 China Automation Congress*. (**Best paper award**)

### Manuscripts

[M3] **Jinxian Wu**, Li Dai, Songshi Dou, Yunshan Deng, & Yuanqing Xia. (2025). Distributed Quasi-Newton Method for Nonlinear Optimization-Based Control, submitted to *Automatica* as Regular paper.

[M2] Songshi Dou, **Jinxian Wu\***, Shengyu Zhang, Xianhao Chen, Lawrence K. Yeung. (2024). Towards QoS-aware and Predictable Load Balancing in Low Earth Orbit Mega-Constellations with Matchmaker, submitted to *IEEE Transactions on Mobile Computing*.

[M1] Pushen Cai, Huahui Xie, **Jinxian Wu**, & Li Dai. (2024). Distributed Model Predictive Control of Multi-Agent Systems for Tracking Periodic Unreachable Trajectory with Collision Avoidance, submitted to *Journal of the Franklin Institute*.

### PATENTS

---

[P1] Li Dai, Yaling Ma, Runze Gao, **Jinxian Wu** et al. (2022). An automotive energy management method based on container and model predictive control. Chinese Patent, CN202210816336.X.

### TALKS & PRESENTATIONS

---

"Distributed Fuzzy Clustering Based Association Rule Mining: Design, Deployment and Implementation", 2021 China Automation Congress, Kunming, Yunnan, China, August 2022.

### TEACHING EXPERIENCE

---

Theory and Application of Stochastic Process (Fall 2019, Teaching assistant)

## HONORS & AWARDS

---

<b>Best Paper Award of CAC 2021 (Top 1%), Chinese Association of Automation</b>	2021
<b>Outstanding Master Student (Top 1%), Beijing Institute of Technology</b>	2021
<b>Outstanding Graduates (Top 1%), Beijing Institute of Technology</b>	2022