

Ting Bai

PERSONAL DATA

TITLE: Postdoctoral Researcher
AFFILIATION: Cornell University
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EDUCATION AND WORK EXPERIENCE

NOV 2024	Postdoctoral Researcher in SCHOOL OF CIVIL & ENVIRONMENTAL ENGINEERING, Cornell University , New York, USA
– PRESENT	Group: Information and Decision Science (IDS) Lab Supervisor: Prof. <i>Andreas A. Malikopoulos</i> Research Interests: Optimal control, dynamic programming, reinforcement learning, and their applications to transportation systems.
SEP 2020	Postdoctoral Researcher in ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, KTH Royal Institute of Technology , Stockholm, Sweden
– SEP 2024	Group: Division of Decision and Control Systems (DCS) Supervisor: Prof. <i>Jonas Mårtensson</i> and Prof. <i>Karl H. Johansson</i>
MAR 2020	Postdoctoral Researcher in COMPUTER SCIENCE AND TECHNOLOGY, Shanghai Jiao Tong University , Shanghai, China
– SEP 2020	Group: Dynamic Systems Optimization (DSO) Supervisor: Prof. <i>Shaoyuan Li</i> and Prof. <i>Guangtao Xue</i>
SEP 2013	Ph.D. in ELECTRONIC INFORMATION AND ELECTRICAL ENGINEERING, Shanghai Jiao Tong University , Shanghai, China
– DEC 2019	Major: Control Science and Engineering Thesis: “Design and Synthesis of Distributed Reconfigurable Predictive Control Systems” Supervisor: Prof. <i>Shaoyuan Li</i>
SEP 2009	Bachelor in ENGINEERING, Northwestern Polytechnical University , Xi’an, China
– JUN 2013	Major: Automation GPA: 87.77/100 (Top 2%) Thesis: “Research on the Principle Prototype of Soft PLC based on Embedded Systems” Ranking: No.1 in the school

LANGUAGE AND PROGRAMMING SKILLS

Language: CHINESE (Native language)
 ENGLISH (Fluent)
Professional: PYTHON, MATLAB, C++, \LaTeX

SCHOLARSHIPS AND PRIZES

2020-2022	Development Scholarship for Outstanding Doctoral Graduates in Shanghai Jiao Tong University One of the Top 15 doctoral graduates in the university
2020	Future Digileaders of Digital Futures in Stockholm
2020	“Super Postdoctoral Fellow” in Shanghai, China Supported by special funds
2013-2015	Grants sponsored by Shanghai Jiao Tong University alumni
2013	Excellent Graduate in Northwestern Polytechnical University
2013	Excellent Graduation Thesis in Northwestern Polytechnical University
2012	National Motivational Scholarship
2012	First-class Scholarship in Northwestern Polytechnical University
2012	“Ji Wenmei” Special Scholarship
2012	Miyoshi Outstanding Student in Northwestern Polytechnical University
2012	Improvement Innovation Competition in Industry (school-level), 1st place
2012	Industrial Engineering Creative Competition in Shaanxi Province, 2nd place
2012	“Principle & Application of Microcomputer” Experimental Skills Contest (school-level), 2nd place
2011	First-class Scholarship in Northwestern Polytechnical University
2011	“Wu Yajun” Special Scholarship
2011	Mathematical Contest in Modeling for College Students, 1st place
2010	Miyoshi Outstanding Student in Northwestern Polytechnical University
2010	First-class Scholarship in Northwestern Polytechnical University
2010	“Kun Chuan” Special Scholarship
2010	University-level “Advanced Individual”
2010	Advanced Mathematics Contest in Shaanxi Province, 3rd place
2009	Special Award for New College Students Top 1% in entrance examination

PROGRAM COMMITTEE

SEP 15-17, 2025	TPC of the 9th ICITT, Amsterdam, The Kingdom of the Netherlands
SEP 24-27, 2024	Publication Co-chair of the 27th IEEE ITSC, Edmonton, Canada
SEP 24-27, 2024	Associate Editor of the 27th IEEE ITSC, Edmonton, Canada
SEP 16-18, 2024	Technical Program Committee (TPC) of the 8th ICITT, Florence, Italy
DEC 13-15, 2023	Chair of the Session “Intelligent Systems”, 62nd IEEE CDC, Singapore Co-chair of the Session “Machine Learning V”, 62nd IEEE CDC, Singapore
MAR 30, 2023	Co-organizer of the 2nd Stockholm Workshop on Emerging Topics in Systems and Control, Stockholm, Sweden
JUN 30, 2022	Co-organizer of the 2022 NetCon Workshop of DCS, Stockholm, Sweden
MAR 10-11, 2021	Co-organizer of the 2021 NetCon Workshop (virtual), Stockholm, Sweden
2020-2024	Host of the Transport Seminar at the Division of DCS, KTH

PROJECTS EXPERIENCE

- 2024–PRESENT: “An Online Learning Framework for Socially Emerging Mixed Mobility”
The NSF Cyber-Physical Systems (CPS) Program
- 2023–2024: “EFFECT: Chess Machines For Electrified Construction Sites”
The Project of the Swedish Foundation for Strategic Research
- 2021–2024: “CLAS: Cyber-Security for Learning and Control Systems”
The Project of the Swedish Foundation for Strategic Research
- 2020–2022: “Economic and Environmental Impacts of Multi-Brand Platooning”
The Horizon 2020 through the Project ENSEMBLE in the European Union
- 2019–2020: “Science and Technology Innovation in 2030–New Generation of AI”
The Major Program of the National Natural Science Foundation of China
- 2017–2019: “Design and Synthesis of Distributed Predictive Control Systems under the
Framework of Cyber-Physical Systems (CPSs)”
The National Program on Key Basic Research Project of China
- 2013–2017: “Strategies and Algorithms Developed for Addressing Real-Time Constrained
Optimization Problems in Large-Scale Engineering Systems”
The National Natural Science Foundation of China

JOURNAL REVIEWER

- Automatica
- IEEE Transactions on Automatic Control
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Transportation Electrification
- IEEE Transactions on Control Systems Technology
- IEEE Transactions on Intelligent Vehicles
- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE/CAA Journal of Automatica Sinica
- IEEE Internet of Things Journal
- IEEE Control Systems Letters
- ACM Transactions on Cyber-Physical Systems
- Transportation Research Part C: Emerging Technologies
- Control Engineering Practice
- Journal of the Franklin Institute
- Systems & Control Letters
- Asian Journal of Control

CONFERENCE REVIEWER

- IEEE Conference on Decision and Control (CDC)
- American Control Conference (ACC)
- European Control Conference (ECC)
- IFAC World Congress (IFAC WC)
- IFAC Symposium on Control of Power & Energy Systems (IFAC CPES)
- IFAC Symposium on Control in Transportation Systems (IFAC CTS)
- IEEE Conference on Intelligent Transportation Systems (ITSC)
- IEEE Intelligent Vehicles Symposium (IV)
- Learning for Dynamics & Control Conference (L4DC)
- Asian Control Conference (ASCC)
- Chinese Control Conference (CCC)

PUBLICATION LIST

- J1. **T. Bai**, Y. Li, A. A. Malikopoulos, K. H. Johansson, and J. Mårtensson, "Distributed charging coordination for electric trucks under limited facilities and travel uncertainties," *IEEE Transactions on Intelligent Transportation Systems*, to appear, 2025.
- J2. **T. Bai**, A. Johansson, S. Li, K. H. Johansson, and J. Mårtensson, "A third-party platoon coordination service: Pricing under government subsidies," *Asian Journal of Control*, 27:1, 13-26, 2025.
- J3. **T. Bai**, A. Johansson, K. H. Johansson, and J. Mårtensson, "Large-scale multi-fleet platoon coordination: A dynamic programming approach," *IEEE Transactions on Intelligent Transportation Systems*, 24:12, 14427-14442, 2023.
- J4. **T. Bai**, Y. Li, K. H. Johansson, and J. Mårtensson, "Rollout-based charging strategy for electric trucks with hours-of-service regulations," *IEEE Control Systems Letters*, 7, 2167-2172, 2023. (Presented at the 62nd CDC, Singapore, December 13-15, 2023.)
- J5. A. Johansson, **T. Bai**, K. H. Johansson, and J. Mårtensson, "Platoon cooperation across carriers: From system architecture to coordination," *IEEE Intelligent Transportation Systems Magazine*, 15:3, 132-144, 2023.
- J6. **T. Bai**, S. Li, and Y. Zou, "Distributed MPC for reconfigurable architecture systems via alternating direction method of multipliers," *IEEE/CAA Journal of Automatica Sinica*, 8:7, 1336-1344, 2021.
- J7. **T. Bai**, S. Li, Y. Zou, and X. Yin, "Block-based minimum input design for the structural controllability of complex networks," *Automatica*, 107: 68-76, 2019.
- J8. **T. Bai**, S. Li, and Y. Zheng, "Distributed model predictive control for networked plant-wide systems with neighborhood cooperation," *IEEE/CAA Journal of Automatica Sinica*, 6:1, 108-117, 2019.
- J9. **T. Bai**, S. Li, and Y. Zou, "Minimum input selection of reconfigurable architecture systems for structural controllability," *Science China Information Sciences*, 62:1, 019201, 2019.

- C1. T. Bai, Y. Li, K. H. Johansson, and J. Mårtensson, "Distributed charging coordination of electric trucks with limited charging resources," *22nd IEEE European Control Conference (ECC)*, Stockholm, Sweden, 2024.
- C2. T. Bai, A. Johansson, K. H. Johansson, and J. Mårtensson, "Approximate dynamic programming for platoon coordination under hours-of-service regulations," *61st IEEE Conference on Decision and Control (CDC)*, Cancun, Mexico, 7663-7669, 2022.
- C3. T. Bai, A. Johansson, S. Li, K. H. Johansson, and J. Mårtensson, "A pricing rule for third-party platoon coordination service provider," *13th IEEE Asian Control Conference (ASCC)*, Korea, 2344-2349, 2022.
- C4. T. Bai, A. Johansson, K. H. Johansson, and J. Mårtensson, "Event-triggered distributed model predictive control for platoon coordination at hubs in a transport system," *60th IEEE Conference on Decision and Control (CDC)*, Austin, TX, USA, 1198-1204, 2021.
- C5. T. Bai and S. Li, "Distributed MPC for reconfigurable architecture systems via alternating direction method of multipliers," *29th Chinese Process Control Conference (CPCC)*, Shenyang, China, 1-6, 2018. **(Best student paper-final list)**
- C6. T. Bai, S. Li, and D. Huang, "Less attention event-driven model predictive control of time-delay system," *10th IEEE Asian Control Conference (ASCC)*, Malaysia, 1-6, 2015.