Ting Bai

Personal Data

Nationality:	China
Title:	Postdoctoral Researcher
Affiliation:	KTH Royal Institute of Technology
Phone:	+46 (0)79-355 9980
Email:	tingbai@kth.se
My homepage:	https://kth-tingbai.github.io
Address:	Körsbärsvagen 9, SE-114 23 Stockholm, Sweden

Education and work experience

SEP 2020 – PRESENT
Postdoctoral Researcher in Electrical Engineering and Computer Science, **KTH Royal Institute of Technology**, Stockholm, Sweden
Group: Division of Decision and Control Systems (DCS)
Supervisor: Prof. *Jonas Mårtensson* and Prof. *Karl Henrik Johansson*
Research Interests: Optimal control, model predictive control (MPC), dynamic programming, reinforcement learning, and their applications to intelligent transportation systems.

MAR 2020 – SEP 2020
Postdoctoral Researcher in Computer Science and Technology, **Shanghai Jiao Tong University**, Shanghai, China
Group: Dynamic Systems Optimization (DSO)
Supervisor: Prof. *Shaoyuan Li* and Prof. *Guangtao Xue*

SEP 2013 – DEC 2019
Ph.D. in Electronic Information and Electrical Engineering, **Shanghai Jiao Tong University**, Shanghai, China
Major: Control Science and Engineering
Thesis: "Design and Synthesis of Distributed Reconfigurable Predictive Control Systems" | Supervisor: Prof. *Shaoyuan Li*

SEP 2009 – JUN 2013
Bachelor in Engineering, **Northwestern Polytechnical University**, Xi'an, China
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, CET 6)
Professional:	Python, MATLAB, LaTeX
	C (National Computer Rank Examination Band 2)

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

Major Projects (worked on)

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

Mentorship and Teaching Experience

2022-present	Graduate course on C Programming Language, Chongqing University of Technology, China
2022-present	Overseas co-supervisor of five master students, Chongqing University of Technology, China
2021	Mentor of the undergraduate thesis of two students, KTH, Sweden
2014	Teaching assistant of the Ph.D. course on Adaptive Control, Shanghai Jiao Tong University, China

Program Committee

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
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-Present	**Host** of the Transport Seminar at the Division of DCS, KTH

Journal Reviewer

- Automatica
- IEEE Transactions on Automatic Control
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Control Systems Technology
- IEEE Transactions on Intelligent Vehicles
- IEEE Transactions on Transportation Electrification
- IEEE Control Systems Letters
- ACM Transactions on Cyber-Physical Systems
- Control Engineering Practice
- Asian Journal of Control
- Systems & Control Letters
- Energies

Conference Reviewer

- IEEE Conference on Decision and Control (CDC)
- American Control Conference (ACC)
- IFAC World Congress (IFAC WC)
- European Control Conference (ECC)
- IEEE Conference on Intelligent Transportation Systems (ITSC)
- Learning for Dynamics & Control Conference (L4DC)
- Asian Control Conference (ASCC)

J1. **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.

J2. 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.

J3. **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.

J4. **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*, 1-14, 2023.

J5. **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, 2020.

J6. **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.

J7. **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.

J8. **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, "Rollout-based charging strategy for electric trucks with hours-of-service regulations". *62nd IEEE Conference on Decision and Control (CDC)*, Marina Bay Sands, Singapore, 2023.

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.