Ting Bai

Personal Data

Nationality:	China
Title:	Postdoctoral Researcher
Affiliation:	KTH Royal Institute of Technology
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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
Supervisor: Prof. Jonas Mårtensson and Prof. Karl Henrik Johansson
Research Interests: Distributed model predictive control, complex networked systems, coordination and optimization of intelligent transport systems, and structural control system theory, etc.

MAR 2020 – SEP 2020
Postdoctoral Researcher in Computer Science and Technology, **Shanghai Jiao Tong University**, Shanghai, China
Group: Dynamic Systems Optimization
Supervisor: Prof. Shaoyuan Li and Prof. Guangtao Xue
"Super Postdoctoral fellow" in Shanghai supported by special funding

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 3%)
Thesis: "Research on the Principle Prototype of Soft PLC based on Embedded Systems"
Comprehensive Ranking: **No.1** in the School

Language and Programming Skills

Language:	Chinese (Native language)
	English (Fluent, CET 6)
Professional:	C (National Computer Rank Examination Band 2)
	Python, MATLAB, LaTeX

Scholarships and Prizes

2020	Future Digileaders 2020 of Digital Futures in Stockholm
2020	**"Super Postdoctoral Fellow"** in Shanghai, China, supported by special funding
2020	**Development Scholarship for Outstanding Doctoral Graduates** in Shanghai Jiao Tong University	15 Ph.D. graduates are awarded each year
2013-2015	Grants sponsored by Shanghai Jiao Tong University alumni
2013	**Excellent Graduate** of Northwestern Polytechnical University
2013	**Excellent Graduation Thesis** of Northwestern Polytechnical University
2012	National Motivational Scholarship
2012	First-class Scholarship of Northwestern Polytechnical University
2012	**"Ji Wenmei" Special Scholarship**
2012	Miyoshi Outstanding Student of 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 of Northwestern Polytechnical University
2011	**"Wu Yajun" Special Scholarship**
2011	Mathematical Contest in Modeling for College Students (school-level), 1st place
2010	Miyoshi Outstanding Student of Northwestern Polytechnical University
2010	First-class Scholarship of Northwestern Polytechnical University
2010	**"Kun Chuan" Special Scholarship**
2010	University-level "Advanced Individual" in Social Practice
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)

Publication List

1. **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*, 2023.

2. **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*, 2023.

3. 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.

4. L. Jiang, J. Ou, R. Liu, Y. Zou, T. Xie, H. Xiao, **T. Bai**, "RMAU-Net: Residual multi-scale attention U-net for liver and tumor segmentation in CT images". *Computers in Biology and Medicine*, 106838, 2023.

5. **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.

6. **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.

7. **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.

8. **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.

9. **T. Bai**, A. Johansson, K. H. Johansson, and J. Mårtensson, "Approximate dynamic programming for platoon coordination under hours-of-service regulations". *IEEE Conference on Decision and Control*, Cancun, Mexico, 2022.

10. **T. Bai**, A. Johansson, S. Li, K. H. Johansson, and J. Mårtensson, "A pricing rule for third-party platoon coordination service provider". *IEEE 13th Asian Control Conference*, Korea, 2022.

11. **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". *IEEE Conference on Decision and Control*, Austin, TX, USA, 2021.

12. **T. Bai** and S. Li, "Distributed MPC for reconfigurable architecture systems via alternating direction method of multipliers". *Chinese Process Control Conference*, China, 2018. (**Best student paper final list**)

13. **T. Bai**, S. Li, and D. Huang, "Less attention event-driven model predictive control of time-delay system". *IEEE 10th Asian Control Conference*, Malaysia, 2015.

14. **T. Bai**, A. Johansson, K. H. Johansson, and J. Mårtensson, "Multi-fleet truck platooning in large-scale transportation systems: A dynamic programming approach". *IEEE Transactions on Intelligent Transportation Systems*, Revised, 2023.