Jiawei Zhang

Department of Automation, Tsinghua University

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EDUCATION

Tsinghua University *September 2020 - Present*
Department of Automation
Ph.D student in Control Science and Engineering

Tsinghua University *September 2016 - June 2020*
Department of Automation
B.S. of Engineering (Graduate with honor)

AREAS OF INTERESTS

Research Interests   Artificial Intelligence, Autonomous Driving, Complex System, Intelligent Vehicle, Intelligent Transportation System, Deep Reinforcement Learning

RESEARCH PUBLICATION

1. **Jiawei Zhang**, Cheng Chang, Xianlin Zeng, Li Li. (2023). Multi-agent DRL-based lane change with right-of-way collaboration awareness. *IEEE Transactions on Intelligent Transportation Systems (TITS)*.
   doi: 10.1109/TITS.2022.3216288 (**SCI, IF: 9.551**)

2. **Jiawei Zhang**, Shen Li, Li Li. (2023). Coordinating CAV swarms at intersections with a deep learning model. *IEEE Transactions on Intelligent Transportation Systems (TITS)*.
   doi: 10.1109/TITS.2023.3250704 (**SCI, IF: 9.551**)

3. **Jiawei Zhang**, Cheng Chang, Zimin He, Wenqin Zhong, Danya Yao, Shen Li, Li Li. (2023). CAVSim: A microscopic traffic simulator for evaluation of connected and automated vehicles. *IEEE Transactions on Intelligent Transportation Systems (TITS)*.
   doi: 10.1109/TITS.2023.3273565 (**SCI, IF: 9.551**)

4. **Jiawei Zhang**, Zhiheng Li, Li Li, Yidong Li, Hairong Dong. (2021). A bi-level cooperative operation approach for AGV based automated valet parking. *Transportation Research Part C: Emerging Technologies (TRC)*, 128, 103140. doi: 10.1016/j.trc.2021.103140 (**SCI, IF: 9.002**)

5. **Jiawei Zhang**, Huaxin Pei, Xuegang(Jeff) Ban, Li Li. (2022). Analysis of cooperative driving strategies at road network level with macroscopic fundamental diagram. *Transportation Research Part C: Emerging Technologies (TRC)*, 135, 103503. doi: 10.1016/j.trc.2021.103503 (**SCI, IF: 9.002**)

6. **Jiawei Zhang**, Cheng Chang, Huaxin Pei, Xinyu Peng, Yuqing Guo, Renzong Lian, Zhenwu Chen, and Li Li. (2022) CAVSim: A microscope traffic simulator for connected and automated vehicles Environment. In *2022 IEEE Intelligent Transportation Systems Conference (ITSC)*. pp. 3719-3724.
   doi: 10.1109/ITSC55140.2022.9922267 (**EI**)

7. Xinyu Peng, **Jiawei Zhang**, Fei-Yue Wang, Li Li. (2021). Drill the cork of information bottleneck by inputting the most important data. *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*.
   pp. 6360-6372. doi: 10.1109/TNNLS.2021.3079112 (**SCI, IF: 14.255**)

8. Huaxin Pei, **Jiawei Zhang**, Yi Zhang, Xin Pei, Shuo Feng, Li Li. (2022). Fault-tolerant cooperative driving at signal-free intersections. *IEEE Transactions on Intelligent Vehicles (TIV)*.
   doi: 10.1109/TIV.2022.3159088 (**SCI, IF: 5.009**)

9. Jingwei Ge, **Jiawei Zhang**, Yi Zhang, Danya Yao, Zuo Zhang, Rui Zhou (2023). Autonomous vehicles testing considering utility-based operable tasks. *Tsinghua Science and Technology*.
   doi: 10.26599/TST.2022.9010037 (**SCI, IF: 3.515**)

10. Cheng Chang, Kunpeng Zhang, **Jiawei Zhang**, Shen Li, Li Li (2022) Driving safety monitoring and warning for connected and automated vehicles via edge computing. In *2022 IEEE Intelligent Transportation Systems Conference (ITSC)*. pp. 3940-3947.
doi: 10.1109/ITSC55140.2022.9922076 (**EI, Best Student Paper Award**)

11. Jingwei Ge, Huile Xu, **Jiawei Zhang**, Yi Zhang, Danya Yao, and Li Li. (2022). Heterogeneous driver modeling and corner scenarios sampling for automated vehicles testing. *Journal of Advanced Transportation (JAT)*.
doi: [10.1155/2022/8655514](10.1155/2022/8655514) (**SCI, IF: 2.249**)

HONORS & AWARDS

- Outstanding Ph.D Student (BEIJING ASSOCIATION OF AUTOMATION)   *2022*
- The First Prize Scholarship (Tsinghua-Xuancheng Scholarship)   *2022*
- Best Student Paper Award (IEEE ITSC 2022)   *2022*
- The Second Prize Scholarship (Tsinghua-Weihai Scholarship)   *2021*
- Outstanding Graduates of Dept. Automation   *2020*
- National Encouragement Scholarship*3   *2017, 2018, 2019*
- The Top Scorer of Science in Wuwei City   *2016*

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, MATLAB
Deep Learning Framework	Pytorch, Tensorflow, Keras

OTHERS

Reviewer Service	IEEE Transactions on ITS, IEEE Transactions on IV Vehicles, ITSC 2022, CAC 2022 ACTA AUTOMATICA SINICA, IEEE Antennas and Wireless Propagation Letters, et al.
Teaching Assistant	Convex Optimization (2020-2021; 2021-2022)
Blue Book	Annual Report On The Development Of Autonomous Driving Industry In China (2020)