

# SONGYUAN ZHANG

**HOME PAGE:** <http://syzhang092218-source.github.io>

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## RESEARCH INTERESTS

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Safe Autonomous Systems, Machine Learning, Reinforcement Learning, Robotics, Control Theory

## EDUCATION

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**Massachusetts Institute of Technology** Aug. 2021 - Now  
*Graduate Student at Department of Aeronautics and Astronautics* Advisor: Prof. Chuchu Fan

**Tsinghua University** Sep. 2017 - Jul. 2021  
*B.E. in Tsien Excellence in Engineering Program (honored degree)*  
Advisor: Prof. Yanan Sui, Prof. Hao Wu, Prof. Gangtie Zheng

**Stanford University** Jun. 2020 - July. 2021  
*Remote Visiting Scholar in Computer Science* Advisor: Prof. Dorsa Sadigh

**University of California, Berkeley** July. 2019 - Sept. 2019  
*Visiting Scholar in Mechanical Engineering* Advisor: Prof. Masayoshi Tomizuka

## PUBLICATIONS

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### JOURNAL

[SG’23] Lizhi Wang, Songyuan Zhang, Yifan Zhou, Chuchu Fan, Peng Zhang, and Yacov A. Shamash. “Physics-Informed, Safety and Stability Certified Neural Control for Uncertain Networked Microgrids.” *IEEE Transactions on Smart Grid*, 2023.[PDF]

### CONFERENCE

[CoRL’23] Songyuan Zhang, Kunal Garg, and Chuchu Fan. “Neural Graph Control Barrier Functions Guided Distributed Collision-avoidance Multi-agent Control.” *7th Conference on Robot Learning (CoRL 2023)*, 2023.[Website]

[L4DC’23 (ORAL)] Songyuan Zhang, Yumeng Xiu, Guannan Qu, and Chuchu Fan. “Compositional Neural Certificates for Networked Dynamical Systems.” *5th Annual Learning for Dynamics & Control Conference (L4DC)*, 2023.[Website]

[NeurIPS’21] Songyuan Zhang\*, Zhangjie Cao\*, Dorsa Sadigh, and Yanan Sui. “Confidence-Aware Imitation Learning from Demonstrations with Varying Optimality.” *Conference on Neural Information Processing Systems*, 2021.[Website]

## HONORS AND AWARDS

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Outstanding Graduate of Tsinghua University	2021
Outstanding Graduate of Beijing	2021
Outstanding Graduate of Scientific Research at TEEP	2021
Outstanding Graduate of Creativity at TEEP	2021
Honor Degree of Tsien Class, Tsinghua University	2021
Tsinghua Scholarship for Technological Innovation	2020
National Scholarship, China	2019
First Prize in Excellent Student Research Training Contest of Tsinghua University	2019
First Prize in "Challenge Cup" Science and Technology Competition of Tsinghua University	2019

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## ACADEMIC SERVICES

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**Teaching Assistant** at Tsinghua University: X-idea (2021 Spring)

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## LEADERSHIP & MEMBERSHIP

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Chairman of 13th *Spark* Innovative Talents Training Program at Tsinghua University

Vice-monitor of Tsien Class 2017

Member of the Second Team of Middle and Long Distance Running at Tsinghua University

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## HOBBIES

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Photography, Badminton, Running, Skiing, Piano, Drum kit, Taekwondo, Poker Magic