

# Yuan ZHOU | Curriculum Vitae

NANYANG TECHNOLOGICAL UNIVERSITY

PhD  
RSB Postdoctoral Fellow  
School of Computer Science and Engineering

## Education

**Nanyang Technological University** **Singapore**  
*PhD in Computer Science, CAP 4.75/5* *Jan 2016–Jun 2019*  
Thesis: *Distributed Approaches to Motion Planning and Control in Multi-Robot Systems*

**Zhejiang Sci-Tech University** **Hangzhou, China**  
*Master of Science in Computational Mathematics* *Sept 2012–Mar 2015*  
First Class  
Thesis: *Modeling and Verification of Self-Adaptive Software Systems*

**Zhejiang Sci-Tech University** **Hangzhou, China**  
*Bachelor of Science in Information and Computing Science* *Sept 2008–Jun 2012*  
First Class

## Working Experience

**Nanyang Technological University** **Singapore**  
*RSB Postdoctoral Fellow* *Aug 2019– Present*

**Nanyang Technological University** **Singapore**  
*Research Assistant* *May 2015– Jul 2019*

## RESEARCH

1. Research Interests.....  
Multi-Robot Systems, Motion Planning and Control, AI in Multi-Robot Systems, Security in Multi-Robot Systems, Petri Nets, System Modeling and Reliability, Fuzzy Rules

2. Citations.....  
Total number of citations: 151 (Google Scholar)  
H-index = 7 (H-index is the maximum value of H such that there are H papers co-authored by me with H or more citations.)

3. Research Project.....
- FSTD. 516,500 SGD** **Singapore**  
*Participant* *11 Nov 2016 - 10 Nov 2019*  
 ACRONIS: Cybersecurity for Autonomous Vehicles
- MoE Tier 2. 659,078 SGD** **Singapore**  
*Participant* *1 Jul 2016 - 30 Jun 2019*  
 Robust Control of Large Scale Concurrent Systems with Unreliable Resources
- MoE Tier 1. 100,000 SGD** **Singapore**  
*Participant* *1 Nov 2014 - 31 Oct 2017*  
 Distributed Plant Modelling, Fault diagnosis, and Supervisor Control of Large Scale Automated Manufacturing Systems
3. Reviewer.....
- IEEE Transactions on Systems, Man, Cybernetics: Systems
  - IEEE Transactions on Intelligent Transportation Systems
  - IEEE Transactions on Automation Science and Engineering
  - IEEE Robotics and Automation Magazine
  - IEEE Transactions on Neural Networks and Learning Systems
  - IEEE Conference on Decision and Control (CDC)
  - IEEE International Conference on Robotics and Automation (ICRA)
  - IEEE International Conference on Automation Science and Engineering (CASE)

## AWARDS

- RSB Postdoctoral Fellow** **Singapore**  
*NTU, July 2019*  
 Research Scholarship Block Postdoctoral Fellow (RSB-PDF) funds deserving post-graduate research fellows, providing awardees with the opportunity to advance their postdoctoral training under established faculty members and build their research career. I was among 25 recipients of the highly competitive RSB-Postdoctoral Fellowship, selected through a stringent process.
- China National Scholarship for Graduate Students** **China**  
*MOE of China 2014*
- Nation Post-Graduate Mathematical Contest in Modeling** **China**  
*MOE of China 2013*  
 Second Prize
- China National Scholarship for Undergraduate Students** **China**  
*MOE of China 2012*
- The Chinese Mathematics Competitions** **China**  
*Chinese Mathematical Society 2011*  
 Second Prize in the Finals

## PUBLICATIONS ([Google Scholar](#), [DBLP](#))

My publications appears in top tier journal (e.g., TFS, TSMC, TR, Automatica), and top tier conferences (e.g., ICSE, CASE).

Number of journal paper: 13

Number of conference paper: 6

### Journal Paper

1. **Yuan Zhou**, Hesuan Hu, Yang Liu, Shang-Wei Lin, and Zuohua Ding. "A distributed method to avoid higher-order deadlocks in multi-robot systems", *Automatica*, accepted, 2019. (IF: 6.355, Q1)
2. Jipeng Wang, Chunrong Pan, Hesuan Hu, Liang Li, **Yuan Zhou**. "A cyclic scheduling approach to single-arm cluster tools with multiple wafer types and residency time constraints," *IEEE Transactions on Automation Science and Engineering*, vol. 16, no. 3, pp. 1373–1386, Jul. 2019. (IF: 5.224, Q1)
3. **Yuan Zhou**, Hesuan Hu, Yang Liu, Shang-Wei Lin, and Zuohua Ding. "A distributed approach to robust control of multi-robot systems," *Automatica*, 98: 1–13, 2018. (IF: 6.355, Q1)
4. Zuohua Ding, **Yuan Zhou**, Geguang Pu, and MengChu Zhou. "Online failure prediction for railway transportation systems based on fuzzy rules and data analysis," *IEEE Transactions on Reliability*, vol. 67, no. 3, pp. 1143–1158, Sept. 2018. (IF: 2.888, Q1)
5. Zuohua Ding, **Yuan Zhou**, MengChu Zhou. "Modeling self-adaptive software systems by fuzzy rules and Petri nets," *IEEE Transactions on Fuzzy Systems*, vol. 26, no. 2, pp. 967–984, Apr. 2018. (IF: 8.759, Q1)
6. **Yuan Zhou**, Hesuan Hu, Yang Liu, Shang-Wei Lin. "Distributed approaches to motion control of multiple robots via discrete event systems," *Control Theory & Applications*, vol. 35, no. 1, pp. 110–120, 2018. (in Chinese with English abstract)
7. **Yuan Zhou**, Hesuan Hu, Yang Liu, Shang-Wei Lin, Zuohua Ding. "A real-time and fully distributed approach to motion planning for multirobot systems," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 2017. <http://ieeexplore.ieee.org/document/8055437/>. (IF: 5.135, Q1)
8. **Yuan Zhou**, Hesuan Hu, Yang Liu, and Zuohua Ding. "Collision and deadlock avoidance in multirobot systems: A distributed approach," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 47, no. 7, pp. 1712–1726, Jul. 2017. (IF: 5.135, Q1)
9. Zuohua Ding, Ting Xu, Tiantian Ye, and **Yuan Zhou**. "Online prediction and improvement of reliability for service oriented systems," *IEEE Transactions on Reliability*, vol. 65, no. 3, pp. 1133–1148, Sept. 2016. (IF: 2.79, Q1)

10. Zuohua Ding, **Yuan Zhou**, and MengChu Zhou. "Modeling self-adaptive software systems with learning Petri nets," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 46, no. 4, pp. 483–498, Apr. 2016. (IF: 2.35, Q2)
11. Zuohua Ding, **Yuan Zhou**, Mingyue Jiang, and MengChu Zhou. "A new class of Petri nets for modeling and property verification of switched stochastic systems," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 45, no. 7, pp. 1087–1100, Jul. 2015. (IF: 1.598, Q2)
12. Zuohua Ding, **Yuan Zhou**, and MengChu Zhou. "A polynomial algorithm to performance analysis of concurrent systems via Petri nets and ordinary differential equations," *IEEE Transactions on Automation Science and Engineering*, vol. 12, no. 1, pp. 295–308, Jan. 2015. (IF: 2.696, Q1)
13. Zuohua Ding, **Yuan Zhou**, and MengChu Zhou. "Stability analysis of switched fuzzy systems via model checking," *IEEE Transactions on Fuzzy Systems*, vol. 22, no. 6, pp. 1503–1514, Dec. 2014. (IF: 8.746, Q1)

#### Conference Paper

1. Junyao Hou, Hesuan Hu, **Yuan Zhou**, Yang Liu. "Decentralized supervisory control of generalized mutual exclusion constraints in Petri nets," *13th IEEE Conference on Automation Science and Engineering*, 2017: 358-363.
2. Nan Du, Hesuan Hu, **Yuan Zhou**, Yang Liu. "Robust control of automated manufacturing systems with complex structures using Petri nets," *13th IEEE Conference on Automation Science and Engineering*, 2017: 364-369.
3. Xiaojun Wang, Hesuan Hu, **Yuan Zhou**, Yang Liu. "A robust control approach to automated manufacturing systems allowing failures and reworks with Petri nets," *13th IEEE Conference on Automation Science and Engineering*, 2017: 370-375.
4. Jipeng Wang, Chunrong Pan, Hesuan Hu, **Yuan Zhou**. "Scheduling of single-arm cluster tools with multi-type wafers and shared PMs," *13th IEEE Conference on Automation Science and Engineering*, 2017: 1046-1051.
5. Mingyue Jiang, Zuohua Ding, MengChu Zhou, **Yuan Zhou**. "Formal modeling and verification of secure mobile agent systems," *13th IEEE Conference on Automation Science and Engineering*, 2015: 545-550.
6. Zuohua Ding, **Yuan Zhou**, MengChu Zhou: "Modeling self-adaptive software systems with learning Petri nets," *ICSE Companion*, 2014: 464-467