Yuan ZHOU | Curriculum Vitae

NANYANG TECHNOLOGICAL UNIVERSITY

PhD
RSB Postdoctoral Fellow
School of Computer Science and Engineering

Education

Nanyang Technollgical 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