Yong Li (李勇)

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Building 5, South Fourth Street 4#, Zhongguancun, Haidian District, Beijing, China

Work Experience

Research Assistant, **Institute of Software, Chinese Academy of Sciences**	April 2020 - present
Virtual Postdoctoral Researcher, **working with Prof. Moshe Y. Vardi**	Jan. 2020 - present

Education

Unversity of Chinese Academy of Sciences	Beijing, China
Ph.D. in Computer Software and Theory	Aug. 2013 - Jan. 2020
Advisor: Prof. Lijun Zhang	
Nanjing Unversity of Posts and Telecommunications	Nanjing, China
B.S. in Computer Science and Technology	Sept. 2009 - Jun. 2013

Awards and Honors

- Beijing Outstanding Graduate   Jul. 2020

- CAS President Scholarship   Jul. 2019

- China National Scholarship   Nov. 2018

- First Class Scholarship for Ph.D. Student   Sept. 2017

- First Class Scholarship for Ph.D. Student   Sept. 2016

- China National Scholarship   Nov. 2010

Research Stays

Department of Computer Science, Rice Unversity	Houston, USA
Host: Prof. Moshe Y. Vardi	Feb. 1 - Jul. 02 2019
Institute of Information Science, Academia Sinica	Taipei, China
Host: Dr. Yu-Fang Chen	Jul. 11 - Jul. 26 2018
Institute of Information Science, Academia Sinica	Taipei, China
Host: Dr. Yu-Fang Chen	Jan. 27 - Feb. 9 2018
Institute of Information Science, Academia Sinica	Taipei, China
Host: Dr. Yu-Fang Chen	Nov. 3 - Nov. 18 2017
Institute of Information Science, Academia Sinica	Taipei, China
Host: Dr. Yu-Fang Chen	Aug. 22 - Sept. 6 2017
Institute of Information Science, Academia Sinica	Taipei, China
Host: Dr. Yu-Fang Chen	May 17 - May 31 2017
Dependable Systems and Software Group, Saarland University	Saarbrücken, Germany
Host: Prof. Holger Hermanns	Feb. 1 - Feb. 15 2016
Software Modelling and Verification Group, RWTH Aachen	Aachen, Germany
Host: Prof. Joost-Pieter Katoen	Oct. 17 2015 - Jan. 31 2016

Professional Activities

- Reviewer: Logical Methods in Computer Science

- Subreviewer: TACAS 2022, CAV 2021, FOSSACS 2020, FM 2019, TASE 2019, ICECCS 2018

- Artifact Evaluation PC member: TACAS 2019, TACAS 2021, TACAS 2022

Research Projects

- Project award for Distinguished Research Assistants, PI (Principle Investigator), grant worth of 600,000 CNY from Chinese Academy of Sciences, 2020 - 2021

- Formal modelling and reasoning methods for root cause analysis in IT systems, PI, grant worth of 250,000 CNY from Cloudwise (Beijing) Technology Co. Ltd., May 2021 - Nov. 2021

- Research on fundamental problems of Büchi automata, PI, grant worth of 300,000 CNY from NSFC, Jan. 2022 - Dec. 2024

PUBLICATIONS

* indicates author list has been sorted alphabetically by last name

[1] **Yong Li**, Andrea Turrini, Weizhi Feng, Moshe Y. Vardi, and Lijun Zhang. Divide-and-Conquer Determinization of Büchi Automata Based on SCC Decomposition. In *Proceedings of the 34th International Conference on Computer Aided Verification, CAV 2022*. Springer, 2022. To appear.

[2] *Chen Fu, Ernst Moritz Hahn, **Yong Li**, Sven Schewe, Meng Sun, Andrea Turrini, and Lijun Zhang. EPMC Gets Knowledge in Multi-Agent Systems. In *Verification, Model Checking, and Abstract Interpretation - 23rd International Conference, VMCAI 2022, Philadelphia, Pennsylvania, United States, January 16-18, 2022, Proceedings*. To appear.

[3] **Yong Li**, Yih-Kuen Tsay, Andrea Turrini, Moshe Y. Vardi, and Lijun Zhang. Congruence Relations for Büchi Automata. In *Proceedings of the 24th International Symposium on Formal Methods, FM 2021*, volume 13047 of *Lecture Notes in Computer Science*, pages 465–482. Springer, 2021.

[4] **Yong Li**, Andrea Turrini, Moshe Y. Vardi, and Lijun Zhang. Synthesizing Good-Enough Strategies for LTLf Specifications. In *Proceedings of the Thirtith International Joint Conference on Artificial Intelligence, IJCAI 2021*, pages 4144–4151. ijcai.org, 2021.

[5] **Yong Li**, Yu-Fang Chen, Lijun Zhang, and Depeng Liu. A Novel Learning Algorithm for Büchi Automata Based on Family of DFAs and Classification Trees. *Inf. Comput.*, 2020.

[6] Weizhi Feng, Cheng-Chao Huang, Andrea Turrini, and **Yong Li**. Modelling and Implementation of Unmanned Aircraft Collision Avoidance. In *Dependable Software Engineering: Theories, Tools, and Applications - Sixth International Symposium, SETTA 2020, Guangzhou, China, November 24-28, 2020, Proceedings*, 2020.

[7] * Xie Li, Yi Li, **Yong Li**, Xuechao Sun, Andrea Turrini, and Lijun Zhang. SVMRanker: A General Termination Analysis Framework of Loop Programs via SVM. In *Proceedings of the ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering, ESEC/SIGSOFT FSE 2020, Sacramento, USA, November 8-13, 2020*, 2020.

[8] **Yong Li**, Moshe Y. Vardi, and Lijun Zhang. On the Power of Unambiguity in Büchi Complementation. In *Games, Automata, Logics, and Formal Verification - Eleventh International Symposium, GandALF 2020, Brussels, Belgium, September 21-23, 2020, Proceedings*, pages 182–198, 2020.

[9] **Yong Li**, Andrea Turrini, Xuechao Sun, and Lijun Zhang. Proving Non-Inclusion of Büchi Automata based on Monte Carlo Sampling. In *Automated Technology for Verification and Analysis - 18th International Symposium, ATVA 2020, Hanoi, Vietnam, October 19-23, 2020, Proceedings*, 2020.

[10] *Suguman Bansal, **Yong Li**, Lucas M. Tabajara, and Moshe Y. Vardi. Hybrid compositional reasoning for reactive synthesis from finite-horizon specifications. In *The Thirty-Fourth AAAI Conference on Artificial Intelligence, AAAI 2020, New York, NY, USA, February 7-12, 2020*, pages 9766–9774, 2020.

[11] Yi Li, Xuechao Sun, **Yong Li**, Andrea Turrini, and Lijun Zhang. Synthesizing Nested Ranking Functions for Loop Programs via SVM. In *Formal Methods and Software Engineering - 21st International Conference on Formal Engineering Methods, ICFEM 2019, Shenzhen, China, November 5-9, 2019, Proceedings*, pages 438–454, 2019.

[12] **Yong Li**, Xuechao Sun, Andrea Turrini, Yu-Fang Chen, and Junnan Xu. ROLL 1.0: ω-Regular Language Learning Library. In *Tools and Algorithms for the Construction and Analysis of Systems - 25th International Conference, TACAS 2019, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2019, Prague, Czech Republic, April 6-11, 2019, Proceedings, Part I*, pages 365–371, 2019.

[13] **Yong Li**, Andrea Turrini, Yu-Fang Chen, and Lijun Zhang. Learning Büchi Automata and Its Applications. In *Engineering Trustworthy Software Systems - 4th International School, SETSS 2018, Chongqing, China, April 7-12, 2018, Tutorial Lectures*, pages 38–98, 2018.

[14] *Yu-Fang Chen, Matthias Heizmann, Ondrej Lengál, **Yong Li**, Ming-Hsien Tsai, Andrea Turrini, and Lijun Zhang. Advanced automata-based algorithms for program termination checking. In *Proceedings of the 39th ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI 2018, Philadelphia, PA, USA, June 18-22, 2018*, pages 135–150, 2018.

[15] Matthias Heizmann, Yu-Fang Chen, Daniel Dietsch, Marius Greitschus, Jochen Hoenicke, **Yong Li**, Alexander Nutz, Betim Musa, Christian Schilling, Tanja Schindler, and Andreas Podelski. Ultimate Automizer and the Search for Perfect Interpolants - (Competition Contribution). In *Tools and Algorithms for the Construction and Analysis of Systems - 24th International Conference, TACAS 2018, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2018, Thessaloniki, Greece, April 14-20, 2018, Proceedings, Part II*, pages 447–451, 2018.

[16] **Yong Li**, Andrea Turrini, Lijun Zhang, and Sven Schewe. Learning to Complement Büchi Automata. In *Verification, Model Checking, and Abstract Interpretation - 19th International Conference, VMCAI 2018, Los Angeles, CA, USA, January 7-9, 2018, Proceedings*, pages 313–335, 2018.

[17] **Yong Li**, Yu-Fang Chen, Lijun Zhang, and Depeng Liu. A Novel Learning Algorithm for Büchi Automata Based on Family of DFAs and Classification Trees. In *Tools and Algorithms for the Construction and Analysis of Systems - 23rd International Conference, TACAS 2017, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2017, Uppsala, Sweden, April 22-29, 2017, Proceedings, Part I*, pages 208–226, 2017.

[18] **Yong Li**, Wanwei Liu, Andrea Turrini, Ernst Moritz Hahn, and Lijun Zhang. An Efficient Synthesis Algorithm for Parametric Markov Chains Against Linear Time Properties. In *Dependable Software Engineering: Theories, Tools, and Applications - Second International Symposium, SETTA 2016, Beijing, China, November 9-11, 2016, Proceedings*, pages 280–296, 2016.

[19] **Yong Li**, Lei Song, Yuan Feng, and Lijun Zhang. Verify LTL with Fairness Assumptions Efficiently. In *23rd International Symposium on Temporal Representation and Reasoning, TIME 2016, Kongens Lyngby, Denmark, October 17-19, 2016*, pages 41–50, 2016.

[20] *Tom van Dijk, Ernst Moritz Hahn, David N. Jansen, **Yong Li**, Thomas Neele, Mariëlle Stoelinga, Andrea Turrini, and Lijun Zhang. A Comparative Study of BDD Packages for Probabilistic Symbolic Model Checking. In *Dependable Software Engineering: Theories, Tools, and Applications - First International Symposium, SETTA 2015, Nanjing, China, November 4-6, 2015, Proceedings*, pages 35–51, 2015.