

# Ruohan Zhang

Postdoctoral Researcher

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## Education

- 2021 PHD, Computer Science, University of Texas at Austin (GPA: 3.92)
- 2014 MASTER OF SCIENCE, Computer Science, University of Texas at Austin
- 2012 BACHELOR OF ARTS, Psychology, Rhodes College, *Cum laude* (GPA: 3.83)  
Minors in Computer Science and Economics

## Publications

- 2021 [Recent advances in leveraging human guidance for sequential decision-making tasks.](#)  
Ruohan Zhang\*, Faraz Torabi\*, Garrett Warnell, Peter Stone (\*equally contributed). *Autonomous Agents and Multi-Agent Systems (JAAMAS)*
- 2021 A Modular Attention Hypothesis for Modeling Visuomotor Behaviors.  
Ruohan Zhang. *Ph.D. Dissertation*
- 2021 [The Hierarchical Evolution in Human Vision Modeling.](#)  
Dana H Ballard, Ruohan Zhang. *Topics in Cognitive Science.*
- 2021 [Efficiently Guiding Imitation Learning Algorithms with Human Gaze.](#)  
Akanksha Saran, Ruohan Zhang, Elaine Schaertl Short, Scott Niekum. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*
- 2020 [Human Gaze Assisted Artificial Intelligence: A Review.](#)  
Ruohan Zhang, Akanksha Saran, Bo Liu, Yifeng Zhu, Sihang Guo, Scott Niekum, Dana H. Ballard, Mary M. Hayhoe. *International Joint Conference on Artificial Intelligence (IJCAI).*
- 2020 [Parallel Neural Processing with Gamma Frequency Latencies.](#)  
Ruohan Zhang, Dana H Ballard. *Neural Computation.*
- 2020 [Atari-HEAD: Atari Human Eye-Tracking and Demonstration Dataset.](#) Ruohan Zhang, Calen Walshe, Zhuode Liu, Lin Guan, Karl S. Muller, Jake A. Whritner, Luxin Zhang, Mary M Hayhoe, Dana H. Ballard. *To appear in Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI).*
- 2019 [Leveraging Human Guidance for Deep Reinforcement Learning Tasks.](#)  
Ruohan Zhang, Faraz Torabi, Lin Guan, Dana H. Ballard, Peter Stone. *International Joint Conference on Artificial Intelligence (IJCAI) Survey Track.*
- 2018 [Modeling Sensory-Motor Decisions in Natural Behavior.](#)  
Ruohan Zhang, Shun Zhang, Matthew H. Tong, Yuchen Cui, Constatin A. Rothkopf, Dana H. Ballard, Mary M. Hayhoe. *PLoS Computational Biology.*
- 2018

- AGIL: Learning Attention from Human for Visuomotor Tasks.  
 Ruohan Zhang, Zhuode Liu, Luxin Zhang, Jake A. Whritner, Karl S. Muller, Mary M. Hayhoe, Dana H. Ballard. *European Conference on Computer Vision (ECCV)*.
- 2018 [Model Checking For Safe Navigation Among Humans](#).  
 Sebastian Junges, Nils Jansen, Joost-Pieter Katoen, Ufuk Topcu, Ruohan Zhang, Mary Hayhoe. *International Conference on Quantitative Evaluation of SysTem (QEST)*.
- 2017 [Attention Guided Deep Imitation Learning](#).  
 Ruohan Zhang\*, Zhuode Liu\*, Mary M. Hayhoe, Dana H. Ballard (\*equally contributed). *Cognitive Computational Neuroscience (CCN)*.
- 2017 [Fast and Precise Black and White Ball Detection for RoboCup Soccer](#).  
 Jacob Menashe, Josh Kelle, Katie Genter, Josiah Hanna, Elad Liebman, Sanmit Narvekar, Ruohan Zhang, Peter Stone. *RoboCup Symposium*.
- 2017 [Greedy Direction Method of Multiplier for MAP Inference of Large Output Domain](#).  
 Xiangru Huang, Ian E.H. Yen, Ruohan Zhang, Qixing Huang, Pradeep Ravikumar, Inderjit S. Dhillon. *Artificial Intelligence and Statistics (AISTATS)*.
- 2016 [Dual Decomposed Learning with Factorwise Oracle for Structural SVM of Large Output Domain](#).  
 Ian E.H. Yen, Xiangru Huang, Kai Zhong, Ruohan Zhang, Pradeep Ravikumar, Inderjit S. Dhillon. *Advances in Neural Information Processing Systems (NIPS)*.
- 2016 [UT Austin Villa: Project-Driven Research in AI and Robotics](#).  
 Katie Genter, Patrick MacAlpine, Jacob Menashe, Josiah Hanna, Elad Liebman, Sanmit Narvekar, Ruohan Zhang, Peter Stone. *IEEE Intelligent Systems 31(2)*.
- 2016 [Maximum Sustainable Yield Problem for Robot Foraging and Construction System](#).  
 Ruohan Zhang, Zhao Song. *International Joint Conference on Artificial Intelligence (IJCAI)*.
- 2016 [Decision-Making Policies for Heterogeneous Autonomous Multi-Agent Systems with Safety Constraints](#).  
 Ruohan Zhang, Yue Yu, Mahmoud El Chamie, Behçet Açikmese, Dana H. Ballard. *International Joint Conference on Artificial Intelligence (IJCAI)*.

## Grants and Awards

- 2019 University Continuing Fellowship, University of Texas at Austin (\$44k)
- 2019 AAAI/SIGAI Doctoral Consortium
- 2018 General International Student and Scholar Services Financial Aid Award (\$1k)
- 2017-2018 Google AR/VR Research Award (\$70k)
- 2014-17 College Continuing Fellowship, University of Texas at Austin Department of Computer Science (\$30k)
- 2011 PSI CHI International Honor Society in Psychology
- 2010 Wolfram Certificate of Proficiency Mathematica Advanced Foundations Level
- 2010 Rhodes College Honor Roll Fall 2010 (semester GPA of 3.85 or better)
- 2010 Rhodes College Honor Roll Spring 2010
- 2009 Rhodes College Honor Roll Fall 2009
- 2009 Rhodes College Dean's List Spring 2009 (semester GPA of 3.70 or better)

- 2008-12 Rhodes College Grants (\$80k+)
- 2005 Third Prize 2005 National Olympiad in Informatics, China
- 2004 Second Prize 2004 National Olympiad in Informatics, China

## Academic Services

Journal article reviewer, *Journal of Vision*  
Book reviewer, *Chapman & Hall/CRC Press*

## Teaching

- 2019 COMPUTATIONAL BRAIN, Teaching Assistant, University of Texas at Austin
- 2015 MACHINE LEARNING, Teaching Assistant, University of Texas at Austin
- 2014 DISCRETE MATHEMATICS (HONOR), Teaching Assistant, University of Texas at Austin
- 2013 DISCRETE MATHEMATICS, Teaching Assistant, University of Texas at Austin
- 2013 LOGIC, SETS, AND FUNCTIONS, Teaching Assistant, University of Texas at Austin
- 2012 QUALITATIVE METHODS, Teaching Assistant, Rhodes College

## Mentoring

Dawei Liang (now The University of Texas at Austin)  
Lin Guan (now Arizona State University)  
Yuezhong Liu (now The Hong Kong University of Science and Technology)  
Luxin Zhang (now Carnegie Mellon University)  
Zhuode Liu (now Google)

## Community Services

- 2017- Cohort mentor for new students, University of Texas at Austin Department of Computer Science
- 2010-12 Dog trainer, Memphis Humane Society
- 2012 Service Our Student (SOS) mentor, Rhodes College
- 2009-11 International student peer advisor, Rhodes College
- 2008-12 Volunteer, Rhodes College A.S.I.A. Club (All Students Interested in Asia)