

Matthew Hausknecht

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RESEARCH FOCUS	I focus on the intersection of Deep Neural Networks and Reinforcement Learning with the goal of developing autonomous agents capable of adapting and learning in complex environments.	
CITIZENSHIP	USA	
EMPLOYMENT	Microsoft Research Redmond, WA <i>Researcher</i>	2017 - Present
	Google <i>Research Intern</i> Developed recurrent deep neural network architectures for large scale video classification. Advised by George Toderici.	2014
EDUCATION	The University of Texas at Austin , Austin, TX <i>Ph.D., Department of Computer Sciences</i> Advised by Peter Stone	2009 - 2017
	Emory University , Atlanta, GA <i>B.S. Computer Science, Summa Cum Laude</i> Advised by Li Xiong, Eugene Agichtein, and Phillip Wolff	2005 - 2009
HONORS & AWARDS	Phi Kappa Phi, 2010 NSF Graduate Research Fellowship, 2009 MCD Fellowship, The University of Texas at Austin, 2009 Trevor Evans Award, Emory University, 2009 Dean's List, Emory University, 2005-2008 Phi Beta Kappa, 2007	
PUBLICATIONS	Counting to Explore and Generalize in Text-based Games Xingdi Yuan, Marc-Alexandre Côté, Alessandro Sordoni, Romain Laroche, Remi Tachet des Combes, Matthew Hausknecht, Adam Trischler <i>European Workshop on Reinforcement Learning (EWRL)</i>	2018
	TextWorld: A Learning Environment for Text-based Games Marc-Alexandre Côté, Ákos Kádár, Xingdi Yuan, Ben Kybartas, Tavian Barnes, Emery Fine, James Moore, Matthew Hausknecht, Layla El Asri, Mahmoud Adada, Wendy Tay, Adam Trischler <i>IJCAI/ICML Computer Games Workshop</i>	2018
	Leveraging grammar and reinforcement learning for neural program synthesis Rudy Bunel, Matthew Hausknecht, Jacob Devlin, Rishabh Singh, Pushmeet Kohli <i>International Conference on Learning Representations (ICLR)</i>	2018
	Revisiting the arcade learning environment: Evaluation protocols and open problems	

for general agents 2017
MC Machado, MG Bellemare, E Talvitie, J Veness, M Hausknecht, Michael Bowling
International Joint Conferences on Artificial Intelligence (IJCAI)

Neural Program Meta-Induction 2017
J Devlin, RR Bunel, R Singh, M Hausknecht, P Kohli
Advances in Neural Information Processing Systems (NIPS)

Cooperation and communication in multiagent deep reinforcement learning 2017
Matthew Hausknecht
Ph.D. Thesis

Half field offense: An environment for multiagent learning and ad hoc teamwork 2016
Matthew Hausknecht, P Mupparaju, S Subramanian, S Kalyanakrishnan, P Stone
AAMAS Adaptive Learning Agents (ALA) Workshop

On-policy vs. off-policy updates for deep reinforcement learning 2016
Matthew Hausknecht, Peter Stone
Deep Reinforcement Learning: Frontiers and Challenges, IJCAI 2016 Workshop

Deep Reinforcement Learning in Parameterized Action Space 2016
Matthew Hausknecht, Peter Stone
Proceedings of the International Conference on Learning Representations (ICLR)

Machine Learning Capabilities of a Simulated Cerebellum 2016
Matthew Hausknecht, Wen-Ke Li, Michael Mauk, and Peter Stone
IEEE Transactions on Neural Networks and Learning Systems

Deep Recurrent Q-Learning for Partially Observable MDPs 2015
Matthew Hausknecht, Peter Stone
AAAI Fall Symposium on Sequential Decision Making for Intelligent Agents

Beyond Short Snippets: Deep Networks for Video Classification 2015
Joe Yue-Hei Ng, Matthew Hausknecht, Sudheendra Vijayanarasimhan, Oriol Vinyals,
Rajat Monga, George Toderici
CVPR 2015

A Neuroevolution Approach to General Atari Game Playing 2013
Matthew Hausknecht, Joel Lehman, Risto Miikkulainen, and Peter Stone
IEEE Transactions on Computational Intelligence and AI in Games

Using a million cell simulation of the cerebellum: Network scaling and 2012
task generality
Wen-Ke Li, Matthew J. Hausknecht, Peter Stone, and Michael D. Mauk
Neural Networks

HyperNEAT-GGP: A HyperNEAT-based Atari General Game Player 2012
Matthew Hausknecht, Piyush Khandelwal, Risto Miikkulainen, and Peter Stone
Proceedings of Genetic and Evolutionary Computation Conference

Dynamic Lane Reversal in Traffic Management 2011
Matthew Hausknecht, Tsz-Chiu Au, Peter Stone, David Fajardo, and Travis Waller
Proceedings of IEEE Intelligent Transportation Systems Conference

	Autonomous Intersection Management: Multi-Intersection Optimization Matthew Hausknecht, Tsz-Chiu Au, and Peter Stone <i>Proceedings of IROS 2011-IEEE/RSJ International Conference on Intelligent Robots and Systems</i>	2011
	Vision Calibration and Processing on a Humanoid Soccer Robot Piyush Khandelwal, Matthew Hausknecht, Juhyun Lee, Aibo Tian and Peter Stone <i>Fifth Workshop on Humanoid Soccer Robots</i>	2010
	Learning Powerful Kicks on the Aibo ERS-7: The Quest for a Striker. Hausknecht, M. and Stone, P. <i>Proceedings of the RoboCup International Symposium</i>	2010
	For want of a nail: How absences cause events. Wolff, P., Barbey, A., Hausknecht, M. <i>Journal of Experimental Psychology: General</i>	2009
	Heuristic Based Extraction of Causal Relations from Annotated Causal Cue Phrases Hausknecht, M. <i>Undergraduate Dissertation</i>	2009
TEACHING EXPERIENCE	University of Texas at Austin <i>Teaching Assistant</i> Discrete Math for Computer Science: Honors	Fall 2013
	Emory University <i>Teaching Assistant</i> Introduction to Computer Science	Fall 2007
REVIEWING	NIPS ICLR ICML Deep Reinforcement Learning Workshop (NIPS)	2017-2018 2018 2018 2016-2018
HOBBIES	UT Rock Climbing Team Avid freediver	2012-2017