

SEUNGCHAN KIM
seungch2@andrew.cmu.edu
<https://seungchan-kim.github.io>

Education	Carnegie Mellon University Ph.D. student at Robotics Institute <i>Advisor: Sebastian Scherer</i>	Pittsburgh, Pennsylvania Sep 2020 - Present
	Brown University M.S. in Computer Science B.S. in Applied Mathematics & Computer Science <i>Advisor: George Konidaris</i>	Providence, Rhode Island Sep 2019 - May 2020 Sep 2013 - May 2019
Research Experience	CMU Air Lab • Conducting AI research with a focus on multi-robot semantic exploration	Oct 2020 - Present
	Brown University Intelligent Robot Lab • Researched on deep reinforcement learning, model-based reinforcement learning	Sep 2017 - May 2020
	Brown University Serre Lab • Developed algorithm to analyze visual attention in childhood development	Jan 2018 - May 2019
Publications	[7] AirDet: Few-Shot Detection without Fine-tuning for Autonomous Exploration Bowen Li, Chen Wang, Pranay Reddy, Seungchan Kim , Sebastian Scherer. <i>European Conference on Computer Vision (ECCV) 2022.</i>	
	[6] Robotic Interestingness via Human-Informed Few-Shot Object Detection Seungchan Kim , Chen Wang, Bowen Li, Sebastian Scherer. <i>IEEE/RSJ International Conference on Robotics and Systems (IROS) 2022.</i>	
	[5] Unsupervised Online Learning for Robotic Interestingness with Visual Memory Chen Wang, Yuheng Qiu, Wenshan Wang, Yafei Hu, Seungchan Kim , Sebastian Scherer. <i>IEEE Transactions on Robotics (T-RO) 2021.</i>	
	[4] Using Computational Analysis of Behavior to Discover Developmental Change in Memory-Guided Attention Mechanisms in Childhood Dima Amso, Lakshmi Govindarajan, Pankaj Gupta, Heidi Baumgartner, Andrew Lynn, Kelley Gunther, Diego Placido, Tarun Sharma, Vijay Veerabadran, Kalpit Thakkar, Seungchan Kim , Thomas Serre. <i>PsyArXiv. doi:10.31234/osf.io/gq4rt.</i>	
	[3] Combating the Compounding-Error Problem with a Multi-step Model Kavosh Asadi, Dipendra Misra, Seungchan Kim , Michael Littman. <i>arXiv preprint. CoRR abs/1905.13320 [cs.LG]</i>	
	[2] DeepMellow: Removing the Need for a Target Network in Deep Q-Learning Seungchan Kim , Kavosh Asadi, Michael Littman, George Konidaris. <i>International Joint Conference on Artificial Intelligence (IJCAI) 2019.</i> <i>Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM) 2019.</i>	
Invited Talks	[1] Removing the Target Network from Deep Q-Networks with the Mellowmax Operator Seungchan Kim , Kavosh Asadi, Michael Littman, George Konidaris. <i>International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2019.</i>	
	DeepMellow: Removing the Need for a Target Network in Deep Q-Learning Brown University Robotics Lab, Providence, RI.	Oct 2019

	An Alternative Softmax Operator for Deep Reinforcement Learning Machine Intelligence Community (MIC) Conference, Boston, MA.	Sep 2019
Teaching	16-711 Kinematics, Dynamics, and Control , CMU Robotics, TA 16-833 Robot Localization and Mapping , CMU Robotics, TA CSCI1430 Computer Vision , Brown CS, TA CSCI0040 Scientific Computing and Problem Solving , Brown CS, TA ENGN0040 Dynamics and Vibrations , Brown Engineering, TA	Jan 2023 - May 2023 Jan 2022 - May 2022 Jan 2019 - May 2019 Jan 2015 - May 2015 Jan 2015 - May 2015
Academic Activities	Reviewer <ul style="list-style-type: none"> • IEEE Robotics and Automation Letters 2021 • International Conference on Robotics and Automation 2023 • AAAI Conference on Artificial Intelligence 2021 • International Conference on Learning Representations 2021, 2023 • Neural Information Processing Systems 2021, 2022 • International Conference on Machine Learning 2020 • NeurIPS 2020 Workshop: Challenges of Real-World RL • NeurIPS 2019 Workshops on ML & Physical Science, ML for Health Mentor <ul style="list-style-type: none"> • CMU AI Mentorship Program 2021, 2022 • CMU SCS Graduate Application Support Program 2020 	
Graduate Coursework	16-811 Math Fundamentals for Robotics 16-720B Computer Vision 10-715 Advanced Introduction to Machine Learning 16-711 Kinematics, Dynamics, and Control 16-833 Robot Localization and Mapping 16-824 Visual Learning and Recognition 16-782 Planning and Decision Making in Robotics 16-884 Deep Learning for Robotics	