

Beomjoon Kim

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Employment	<i>Associate Professor in Graduate School of AI</i> Sept 2020 - Present Korea Advance Institute of Science and Technnology (KAIST) , Seoul, South Korea	
Education	<i>Ph.D. in Computer Science</i> Sept 2014 - May 2020 (Advisors: Leslie Pack Kaelbling and Tomás Lozano-Pérez) Massachusetts Institute of Technology, EECS , Cambridge, USA <i>M.Sc. in Computer Science</i> Jan 2012 - Dec 2013 (Advisor: Joelle Pineau) McGill University, School of Computer Science , Montreal, Canada <i>BMath. in Joint Honours of Computer Science and Statistics (with Distinction)</i> Sep 2007 - Dec 2011 University of Waterloo, Faculty of Mathematics , Waterloo, Canada	
Journal Papers	Representation, learning, and planning algorithms for geometric task and motion planning <u>Beomjoon Kim</u> , Luke Shimanuki, Leslie P. Kaelbling, Tomás Lozano-Pérez. <i>International Journal of Robotics Research (IJRR)</i> , 2021. Integrated task and motion planning Caelan Reed Garrett, Rohan Chitnis, Rachel Holladay, <u>Beomjoon Kim</u> , Tom Silver, Leslie P. Kaelbling, Tomás Lozano-Pérez. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2021. Learning to guide task and motion planning using score-space representation <u>Beomjoon Kim</u> , Zi Wang, Leslie P. Kaelbling, Tomás Lozano-Pérez. <i>International Journal of Robotics Research (IJRR)</i> , 2019. Socially adaptive path planning in dynamic environments using inverse reinforcement learning <u>Beomjoon Kim</u> , Joelle Pineau. <i>International Journal of Social Robotics</i> , 2015.	
Selected conference papers	Ohm²: Optimal hierarchical planner for object search in large environments via mobile manipulation Yoonyoung Cho*, Donghoon Shin*, <u>Beomjoon Kim</u> . <i>International Conference on Intelligent Robots and Systems (IROS)</i> , 2022. A long horizon planning framework for manipulating rigid pointcloud objects Anthony Simeonov, Yilun Du, <u>Beomjoon Kim</u> , Francoi Hogan, Joshua Tenenbaum, Pulkit Agrawal, Alberto Rodriguez. <i>Conference on Robot Learning (CoRL)</i> , 2020.	

CAMPs: learning context-specific abstractions for efficient planning in factored MDPs

Rohan Chitnis*, Tom Silver*, Beomjoon Kim, Leslie Pack Kaelbling, Tomás Lozano-Pérez.

Conference on Robot Learning (CoRL), 2020.

Monte Carlo Tree Search in continuous spaces using Voronoi optimistic optimization with regret bounds

Beomjoon Kim, Kyungjae Lee, Sungbin Lim, Leslie P. Kaelbling, Tomás Lozano-Pérez.
AAAI Conference on Artificial Intelligence (AAAI), 2020.

Learning value functions with relational state representations for guiding task-and-motion planning

Beomjoon Kim, Luke Shimanuki.

Conference on Robot Learning (CoRL), 2019.

Adversarial actor-critic method for task and motion planning problems using planning experience

Beomjoon Kim, Leslie P. Kaelbling, Tomás Lozano-Pérez.

AAAI Conference on Artificial Intelligence (AAAI), 2019.

Regret bounds for meta Bayesian optimization with an unknown Gaussian process prior

Beomjoon Kim*, Zi Wang*, Leslie P. Kaelbling. (* indicates equal contribution)

Neural Information Processing Systems (NeurIPS), 2018.

Guiding search in continuous state-action spaces by learning an action sampler from off-target search experience

Beomjoon Kim, Leslie P. Kaelbling, Tomás Lozano-Pérez.

AAAI Conference on Artificial Intelligence (AAAI), 2018.

Learning to guide task and motion planning using score-space representation

Beomjoon Kim, Leslie P. Kaelbling, Tomás Lozano-Pérez.

IEEE International Conference on Robotics and Automation (ICRA), 2017.

(Winner of Best Cognitive Robotics Paper Award)

Generalizing over uncertain dynamics for online trajectory generation

Beomjoon Kim, Leslie P. Kaelbling, Tomás Lozano-Pérez.

International Symposium on Robotics Research (ISRR), 2015.

Learning from limited demonstrations

Beomjoon Kim, Amir M. Farahmand, Joelle Pineau, Doina Precup.

Neural Information Processing Systems (NeurIPS), 2013.

Maximum mean discrepancy imitation learning

Beomjoon Kim, Joelle Pineau.

Robotics: Science and Systems (RSS), 2013.

Awards

ICRA Best Cognitive Robotics Paper Award, 2017

McGill GREAT Award, 2013

NSERC Undergraduate Student Research Award, 2010

University of Waterloo Full-time Bursary (merit-based), 2007-2011

University of Waterloo President's Scholarship, 2007