

Dong Ki Kim

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Education	Massachusetts Institute of Technology , Cambridge, MA S.M. in Aeronautics and Astronautics Focus: Reinforcement Learning Cumulative GPA: 5.0/5.0 Cornell University , Ithaca, NY B.S. in Electrical and Computer Engineering Highest Honors: <i>Summa Cum Laude</i>	September 2017 – Present Graduated January 2016
Research Experience	Laboratory for Information and Decision Systems Massachusetts Institute of Technology Advisor: Professor. Jonathan P. How <ul style="list-style-type: none">As part of MIT-IBM Watson AI Lab, developed Learning to Coordinate and Teach Reinforcement (LeCTR), framework for agents to learn to teach in cooperative multiagent reinforcement learning settings.Built attention-based hierarchical reinforcement learning framework that identifies useful latent features across multiple sensory inputs and accelerates in transfer learning. The Air Lab, The Robotics Institute Carnegie Mellon University Advisor: Professor. Sebastian Scherer <ul style="list-style-type: none">Developed deep multimodal network that improves segmentation robustness to appearance variations, e.g., Summer vs Winter, by combining image and LiDAR sensor data.Built ROS-based system that estimates terrain roughness from LiDAR sensor data in real-time. The Robot Intelligence through Perception Lab Toyota Technological Institute at Chicago Advisor: Professor. Matthew R. Walter <ul style="list-style-type: none">Developed cross-view visual localization system that estimates vehicle's pose on georeferenced satellite map given sequence of ground-level images.Improved LSD-SLAM's pose estimation by incorporating ORB-SLAM's pose-graph keyframe constraints. Advanced Multimedia Processing Lab Cornell University Advisor: Professor. Tsuhan Chen <ul style="list-style-type: none">Built vision-based system that enables drone to navigate indoors autonomously and find specific target.Developed indoor localization algorithm based on floor plan and camera.	September 2017 – Present August 2016 – July 2017 January 2016 – July 2016 May 2014 – January 2016
Publication	Conference Paper <ul style="list-style-type: none">Shayegan Omidshafiei, Dong-Ki Kim, Miao Liu, Gerald Tesauro, Matthew Riemer, Christopher Amato, Murray Campbell, and Jonathan P. How. Learning to Teach in Cooperative Multiagent Reinforcement Learning. <i>Association for the Advancement of Artificial Intelligence (AAAI)</i>. 2019. (outstanding student paper honorable mention)Shayegan Omidshafiei, Dong-Ki Kim, Jason Pazis, and Jonathan P. How. Crossmodal Attentive Skill Learner. <i>International Conference on Autonomous Agents and Multiagent Systems (AAMAS)</i>. 2018.Dong-Ki Kim, Daniel Maturana, Masashi Uenoyama, and Sebastian Scherer. Season-Invariant Semantic Segmentation with A Deep Multimodal Network. <i>Field and Service Robotics (FSR)</i>. 2017.Dong-Ki Kim and Matthew R. Walter. Satellite Image-based Localization via Learned Embeddings. <i>International Conference on Robotics and Automation (ICRA)</i>. 2017.Hang Chu, Dong-Ki Kim, and Tsuhan Chen. You Are Here: Mimicking the Human Thinking Process in Reading Floor-Plans. <i>International Conference on Computer Vision (ICCV)</i>. 2015. Journal Paper <ul style="list-style-type: none">Dong-Ki Kim, Shayegan Omidshafiei, Jason Pazis, and Jonathan P. How. Crossmodal Attentive Skill Learner. <i>Journal of Autonomous Agents and Multiagent Systems (JAAMAS)</i>. (submitted; invited submission) Workshop and Symposium Paper <ul style="list-style-type: none">Dong-Ki Kim, Miao Liu, Shayegan Omidshafiei, Sebastian Lopez-Cot, Matthew Riemer, Gerald Tesauro, Murray Campbell, Golnaz Habibi, and Jonathan P. How. Heterogeneous Knowledge Transfer via Hierarchical Teaching in Cooperative Multiagent Reinforcement Learning. <i>Association for the Advancement of Artificial Intelligence (AAAI) Workshop</i>. 2019.Shayegan Omidshafiei, Dong-Ki Kim, Miao Liu, Gerald Tesauro, Matthew Riemer, Christopher Amato, Murray Campbell, and Jonathan P. How. Learning to Teach in Cooperative Multiagent Reinforcement Learning. <i>International Conference on Machine Learning (ICML) Workshop</i>. 2018.Shayegan Omidshafiei, Dong-Ki Kim, Jason Pazis, and Jonathan P. How. Crossmodal Attentive Skill Learner.	

Neural Information Processing Systems (NIPS) Symposium. 2017.

- Daniel Maturana, Sankalp Arora, Po-Wei Chou, **Dong-Ki Kim**, Masashi Uenoyama, and Sebastian Scherer. Online Semantic Mapping for Autonomous Navigation and Scouting. *Robotics: Science and Systems (RSS) Workshop*. 2017.

Technical Report

- **Dong-Ki Kim** and Tsuhan Chen. Deep Neural Network for Real-Time Autonomous Indoor Navigation. *arXiv preprint arXiv:1511.04668*. 2015.

Skill

Programming Language: Python, C/C++, Matlab, HTML, CSS, JavaScript

Tools/Library/Software: PyTorch, TensorFlow, Theano, Keras, Caffe, OpenCV, ROS, Point Cloud Library

**Fellowship
and Award**

Kwanjeong Education Foundation Scholarship

September 2017 – Present

- Receiving \$30,000/year for 4-5 years for graduate studies

Merrill Presidential Scholar

February 2015

- Nominated for Cornell University's prestigious award given to top 1% graduating seniors