JaeGoo Choy

CONTACT INFORMATION

Ph.D. Student
Robot Learning Laboratory
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RESEARCH INTERESTS

Robotics, Reinforcement Learning, Computer Vision

EDUCATION

Ph.D. in Electrical and Computer Engineering Sep. 2017 - Present
- Seoul National University, Seoul, Korea
- Advisor: Prof. Songhwai Oh

B.S. in Electrical and Computer Engineering Mar. 2011 - Aug. 2017
- Seoul National University, Seoul, Korea

PUBLICATIONS

Jaegoo Choy, Geonho Cha, Hogun Kee, and Songhwai Oh, "Unsupervised 3D Part Decomposition via Leveraged Neural Radiance Fields," in *Proc. of the IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR)*, 2024 (Submitted).

Jaegoo Choy, Geonho Cha, and Songhwai Oh, "Scene Flow Estimation for Articulated Objects with Multi-Scale Point Cloud Feature Correlation Maps," in *Proc. of the IEEE International Conference on Computer Vision (ICCV)*, May 2023 (Submitted).

Hogun Kee, Minjae Kang, Dohyeong Kim, **Jaegoo Choy**, and Songhwai Oh, "SDF-Based Graph Convolutional Q-Networks for Rearrangement of Multiple Objects," in *Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, May 2023.

Jaegoo Choy, and Songhwai Oh, "Unsupervised Joint Registration of Open Chains for a Manipulation Task," in *Intelligent Service Robotics (ISR)*, May 2023 (Submitted).

JaeGoo Choy, Geonho Cha, and Songhwai Oh, "Unsupervised 3D Link Segmentation of Articulated Objects with a Mixture of Coherent Point Drift," in *IEEE Robotics and Automation Letters(RA-L)*, vol. 7, no. 3, pp. 7124-7131, Jul. 2022.

JaeGoo Choy, JaeGoo Choy, Geonho Cha, and Songhwai Oh, "Unsupervised 3D Link Segmentation of Articulated Objects with a Mixture of Coherent Point Drift," in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2022. (RA-L option)

Kyungjae Lee, **Jaegu Choy**, Yunho Choi, Hogun Kee, and Songhwai Oh, "No-Regret Shannon Entropy Regularized Neural Contextual Bandit Online Learning for Robotic Grasping," in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2020.

Jaegoo Choy, Kyungjae Lee, and Songhwai Oh, "Sparse Actor-Critic: Sparse Tsallis Entropy Regularized Reinforcement Learning in a Continuous Action Space," in *Proc. of the International Conference on Ubiquitous Robots (UR)*, Jun. 2020.

Yunho Choi, Hogun Kee, Kyungjae Lee, **Jaegu Choy**, and Songhwai Oh, "Hierarchical 6-DoF Grasping with Approaching Direction Selection," in *Proc. of the IEEE International Conference on Robotigcs and Automation (ICRA)*, May 2020.

Domestic Publications

최재구, 오성회, "Generation of a simple kinematic model of an articulated object by approximating a point set to a set of ellipsoids", *인공지능 하계학술대회*, Aug. 2022.

박정호, **최재구**, 오성회, "Memory Efficient Reinforcement Learning for Multi-tasks with Deep Virtual Q-Networks," *인공지능 하계학술대회*, Aug. 2020.

Honors

Awards and Scholarships

- Brain Korea 21 Plus Scholarship, Seoul National University — 2021 - Present
- Summa Cum Laude, Seoul National University — 2017

Teaching Experience

Teaching Assistant

- Deep Reinforcement Learning — Spring 2020
- Introduction to IoT·AI·Big Data Course — Sprint 2019
- Introduction to Deep Learning, SNU Big Data Academy — Fall 2018
- Introduction to Intelligent Systems — Fall 2018
- Introduction to Intelligent Systems — Fall 2017

Research Experience

Development of Brain-Inspired AI with Human-Like Intelligence - Ministry of Science and ICT(MSIT)

- Team Lead & Development of machine learning techniques based on experience with real-world interactions that simulate the fundamental and infant stages of brain and cognitive development — Mar. 2019 - Dec. 2022

Samsung Manipulation Robot - Samsung Electronics Co., Ltd.

- Development of simulated manipulation task environments for data generation
- Development of a robust bin-picking action learning algorithm — May. 2019 - Nov. 2019

Realistic 4D Reconstruction of Dynamic Objects - Ministry of Science, ICT, and Future Planning(MSIT)

- Development of signed distance field inferencing algorithm — Sep. 2017 - Feb. 2019

Computer and Language Skills

Computer Skills

- C++/C, Matlab, Python, Pytorch, TensorFlow

Language Skills

- Korean, English