Kyuwon (Andy) Choi

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EDUCATION

University of California, Los Angeles, Los Angeles, CA — June 2021
M.S. in Mechanical Engineering / Robotics, GPA: 3.70

Cornell University, Ithaca, NY — May 2020
B.S. in Mechanical Engineering, Cum Laude, GPA: 3.55 (Major GPA: 3.63)

WORK EXPERIENCE

AgileSoDA, Seoul, Korea — July 2021 – Present
Reinforcement Learning Research Engineer

- Developing an AI Robotics product: RoboSoDA
- Developing a B2B reinforcement learning MLOps platform: BakingSoDA
- Developing an AI-based semiconductor design optimization solution: ChipNSoDA

AgileSoDA, Seoul, Korea — Jun 2020 – Sep 2020
AI (Reinforcement Learning) Algorithm Intern

- Placed 3rd in Block toy manufacturing process optimization AI contest hosted by Dacon and LG
- Developed RL algorithm for ejector pin's location during TV manufacturing process with LG Electronics

CORNELL University, Ithaca, NY — Aug 2019 – Dec 2019
Teaching Assistant (**Mechatronics: MAE 3780)**

RESEARCH EXPERIENCE

Autonomous Systems/Verifiable Robotics Research Group, Cornell University, Ithaca, NY Sep 2018 – Dec 2019
Undergraduate Research Assistant (Advisors: Professors Hadas Kress-Gazit and Mark Campbell)

- Developed skills (e.g. picking, placing, and driving) for KUKA youBot using Robot Operating System (ROS)
- Implemented a particle filter in order to localize the Duckiebot with AprilTags using Python
- Constructed a 3D map of a hallway with ZED Stereo Camera, LiDAR, and JACKAL.
- Integrated JACKAL odometry, LiDAR and ZED Stereo Camera RGBD data in RVIZ using RTAB-MAP

Roar Lab, Columbia University, New York, NY — Jun 2018 – Aug 2018
Research Intern (Advisor: Professor Sunil Agrawal)

- Performed literature reviews on neck braces

PUBLICATIONS & PATENTS

- Heuristic Algorithm-based Action Masking Reinforcement Learning (HAAM-RL) with Ensemble Inference Method, *Arxiv Preprint, March 21 2024*
- Reinforcement Learning Based Pallet Loading Algorithm and its Application to a Real Manipulator System *Ubiquitous Robots 2023, Honolulu, HI, USA*
- Reinforcement Learning Based Palletizing Methodology to Respond to Diverse Logistics Environments *KRoC 2023, PyeongChang, Korea*
- Choi, et al. Palletizing System and Method for Controlling the Same, Korea Patent #1026418560000, 2024
- Choi, et al. Palletizing Reinforcement Learning Apparatus and Method, Korea Patent #1025510390000, 2023
- Choi, et al. Reinforcement Learning Apparatus and Method For Optimizing Position of Object Based on Semiconductor Design Data, Korea Patent #1020210190143, 2022
- Choi, et al. Apparatus and Method for Reinforcement Learning Based on User Learning Environment in Semiconductor Design, Korea Patent #1020210190142, 2022

TECHNICAL SKILLS

- Reinforcement Learning, Python (PyTorch, TensorFlow), MATLAB, Robot Operating System (ROS)