

Jeonghwan Kim

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Education

Georgia Institute of Technology	2023 –
<i>PhD in Robotics (Advisor: Sehoon Ha)</i>	
Georgia Institute of Technology	2021 – 2023
<i>MS in Electrical and Computer Engineering</i>	
<i>MS in Mathematics</i>	
Seoul National University	2014 – 2020
<i>BS in Electrical and Computer Engineering</i>	<i>summa cum laude</i>

Work Experience

3D Vision Lab, Seoul National University	2019 – 2020
<i>Researcher (Advisor: Young Min Kim)</i>	<i>Seoul, Korea</i>
<ul style="list-style-type: none">• Machine learning research on 3D data (voxel, pointcloud, mesh)• Publication: ICLR2021, Eurographics Short 2021	
Samsung Research	2019
<i>Student Intern, Robotic Systems Department</i>	<i>Seoul, Korea</i>
<ul style="list-style-type: none">• Developed task manager and android tablet controller for data collection of mobile manipulator (ROS2)	
Okuda Lab, University of Tokyo	2018
<i>Student Intern, University of Tokyo Summer Internship (UTSIP)</i>	<i>Kashiwa, Japan</i>
<ul style="list-style-type: none">• Wireless parallel computing on low-cost mobile environment• Parallel stress analysis of layered PCB using Finite Element Analysis via Front-ISTR	

Publications

ACE: Adversarial Correspondence Embedding for Cross Morphology Motion Retargeting from Human to Nonhuman Characters	
Tianyu Li, Jungdam Won, Alexander Clegg, Jeonghwan Kim, Akshara Rai, Sehoon Ha	
<i>SIGGRAPH ASIA, 2023</i>	
ARMP: Autoregressive Motion Planning for Quadruped Locomotion and Navigation in Complex Indoor Environments	
Jeonghwan Kim, Tianyu Li, Sehoon Ha	
<i>IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2023</i>	
Autorigging 3D Bipedal Characters in Arbitrary Poses	
Jeonghwan Kim, Hyeontae Son, Jinseok Bae, Young Min Kim	
<i>European Association for Computer Graphics (Eurographics) short paper 2021</i>	
Learning to generate 3D shapes with Generative Cellular Automata	
Dongsu Zhang, Changwoon Choi, Jeonghwan Kim, Young Min Kim	
<i>International Conference on Learning Representations (ICLR) 2021</i>	

Teaching Experience

Computer Graphics (CS3451)	2023
<i>Graduate Teaching Assistant, Georgia Institute of Technology</i>	
Computer Animation (CS4496/7496)	2022
<i>Graduate Teaching Assistant, Georgia Institute of Technology</i>	

Awards, Honors, Scholarships

Graduate Teaching Assistant <i>Georgia Institute of Technology</i>	2022 – 2023
Graduate Research Assistant <i>Georgia Institute of Technology</i>	2022
Kwanjeong Educational Foundation Scholarship <i>Kwanjeong Educational Foundation Scholarship Foundation</i>	2018–2019
Academic Excellence Scholarship(Full-Funding) <i>Seoul National University</i>	2017–2017

Other Research Projects

Implementation of PPO for Multi-Agent Path Finding with Dynamic Obstacles <ul style="list-style-type: none">• Validate the performance of PPO algorithm for multi-agent path finding with dynamic obstacles in MAPPER environment	2022
Performance of AI and reliability of XAI <ul style="list-style-type: none">• Validate use of XAI techniques to medical data for low performing AI• Discover relation between reliability of various XAI methods(SHapley Additive exPlanations, Permutation Feature Importance, etc.) and AI's performance based on diverse simulation datasets.	2021
Stabilizing Controllers with Polynomial Root Gradients <ul style="list-style-type: none">• Use of Polynomial Root Kernel(PRK) and Polynomial Root Gradients(PRG) to trained neural network to generate both discrete and continuous controllers satisfying root criterion stability.• Successfully generate stabilizing controllers and parallel feed-forward compensator(PFC) along with unique application to Belgian chocolate problem	2019–2020
Design and Control of Scalable Multi-object Magnetic Suspension System <i>Undergraduate Research Project, Funded by Seoul National Universtiy</i> <ul style="list-style-type: none">• Model 3DoF levitating magnetic ball with 2D plane of electro magnets on MATLAB/Simulink• 3DoF position control of levitating object using reinforcement learning(DDPG)	2018