

Jeonghwan Kim

699 Spring St NW
Atlanta, GA, 30308

<https://jhkim.me>
jkim3662@gatech.edu

Education

Georgia Institute of Technology <i>PhD in Robotics (Advisor: Sehoon Ha)</i> <ul style="list-style-type: none">Research Focus: Visual Navigation using Scene Imagination from Generative Models for Legged Robots	2023 –
Georgia Institute of Technology <i>MS in Electrical and Computer Engineering</i> <i>MS in Mathematics</i>	2021 – 2023
Seoul National University <i>BS in Electrical and Computer Engineering</i>	2014 – 2020 <i>summa cum laude</i>

Work Experience

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

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
SIGGRAPH ASIA, 2023
- ARMP: Autoregressive Motion Planning for Quadruped Locomotion and Navigation in Complex Indoor Environments**
Jeonghwan Kim, Tianyu Li, Sehoon Ha
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2023
- Autorigging 3D Bipedal Characters in Arbitrary Poses**
Jeonghwan Kim, Hyeontae Son, Jinseok Bae, Young Min Kim
European Association for Computer Graphics (Eurographics) short paper 2021
- Learning to generate 3D shapes with Generative Cellular Automata**
Dongsu Zhang, Changwoon Choi, Jeonghwan Kim, Young Min Kim
International Conference on Learning Representations (ICLR) 2021

Skill Sets

Python, C++/C#, PyBullet, PyTorch, AI Habitat, ROS2, IsaacGym, Unity3D, Vicon Mocap

Teaching Experience

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

Awards, Honors, Scholarships

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

Other Research Projects

Design and Control of Scalable Multi-object Magnetic Suspension System <i>Undergraduate Research Project, Funded by Seoul National University</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
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
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
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