

Sunwoo Kim

Updated October 5, 2024

Research interests

- Computer graphics (Physics-based simulation, Computer animation)
- Robotics (Deep reinforcement learning, Optimal control)
- Body motion retrieval & generation (From video, text and audio)

Education

Seoul National University

Seoul, Korea

Master's degree in Computer Science

Sep. 2022.

Supervisor: Prof. Jehee Lee, *Unofficial: Prof. Sehoon Ha*

POSTECH

Pohang, Korea

Bachelor's degree in Creative IT Engineering

Feb. 2019.

Magna cum laude GPA: 3.88

Work Experience

NCSOFT

Sungnam, Korea

AI Researcher

Aug 2022 – Present

Graphics AI Lab, NC Research

Publications

Conferences

Body Gesture Generation for Multimodal Conversational Agents

Sunwoo Kim, Minwook Chang, Yoonhee Kim, Jehee Lee

SIGGRAPH Asia Conference, 2024.

Towards Natural Prosthetic Hand Gestures: A Common-Rig and Diffusion Inpainting Pipeline

Seungyup Ka, Taemoon Jeong, Sunwoo Kim, Sankalp Yamsani, Joohyung Kim, Sungjoon Choi

IEEE Engineering in Medicine and Biology Society (EMBC), 2024.

Human Motion Control of Quadrupedal Robots using Deep RL

Sunwoo Kim, Maksim Sorokin, Jehee Lee, Sehoon Ha

Robotics: Science and Systems (RSS), 2022.

Journals

Controllable Single Motion Synthesis

Taehyun Byun, Sunwoo Kim, Minwook Chang, Sungjoon Choi

IEEE Transactions on Multimedia, 2024.(Submitted)

Workshops

HumanConQuad: Human Motion Control of Quadrupedal Robots using Deep RL

Sunwoo Kim, Maksim Sorokin, Jehee Lee, Sehoon Ha
Emerging Technologies, SIGGRAPH Asia, 2022.

Thesis

Developing Motion Control of Different Morphology using Deep Reinforcement Learning

Sunwoo Kim

Seoul National University, 2022.

Awards

Master's Award: 2nd prize (Korea Computer Graphics Society)	2020
<i>Human Motion Control of Quadrupedal Robots using Deep RL</i>	
Grand prize (Ministry of Science and ICT, Korea)	2018
<i>Improved Color Palette Extraction from Pictures</i> (present 4:12, awarded 1:38:00)	
Grand prize (POSTECH)	2017
<i>Creative Design III: Improved Color Palette Extraction from Pictures</i>	
Grand prize (POSTECH)	2016
<i>Creative Design II: Artistic Video Transfer using Deep Learning</i>	

Teaching experience

Teaching assistant , Seoul National University	Spring 2021
Core Computing: Computation thinking (Jehee Lee)	
Undergraduate tutor , POSTECH	Spring 2018
Digital system and Micro-processor (Jaejoon Kim)	

Professional Service

Paper Reviewer
Siggraph Asia

Skills

Programming and Software
C++, Python, CSS, FastAPI, Tensorflow, Pytorch, Physics Simulators (DART-sim, pyBullet, Raisim)
Experienced Robots
UnitreeRobotics A1
Languages
Korean (Native), English (Advanced)

References

Prof. Jehee Lee
Advisor, NCSOFT
Associate Professor, Seoul National University (on leave)

Prof. Sehoon Ha
Assistant Professor, Georgia Institute of Technology