Sunwoo Kim

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GitHub: https://github.com/PulseKim/

Blog: https://pulsekim.github.io/

Research interests

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

Education

Seoul National University Seoul, Korea
MA in Computer Science Sep. 2022.
Supervisor: Prof. Dr. Jehee Lee, *Unofficial: Prof. Dr. Sehoon Ha*

POSTECH Pohang, Korea
BA in Creative IT Engineering Feb. 2019.
Magna cumme laude *GPA: 3.88*

Work Experience

NCSOFT Gyeonggi-do, Korea
AI Researcher Aug 2022 – Present
Graphics AI Lab, NC Research

Publications

Conferences

Body Gesture Generation for Multimodal Conversational Agents
<u>Sunwoo Kim</u>, Minwook Chang, Yoonhee Kim, Jehee Lee
SIGGRAPH Asia, 2024.(To Appear)

Towards Natural Prosthetic Hand Gestures: A Common-Rig and Diffusion Inpainting Pipeline
Seungyup Ka, Taemoon Jeong, <u>**Sunwoo Kim**</u>, Sankalp Yamsani, Joohyung Kim, Sungjoon Choi
IEEE Engineering in Medicine and Biology Society (EMBC), 2024.

Human Motion Control of Quadrupedal Robots using Deep RL
<u>Sunwoo Kim</u>, Maksim Sorokin, Jehee Lee, Sehoon Ha
Robotics: Science and Systems (RSS), 2022.

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& Scholarships		
Master's Award: 2nd prize (Korea Computer Graphics Society)		2020
Human Motion Control of Quadrupedal Robots using Deep RL		
Grand prize (Ministry of Science and ICT, Korea)		2018
Improved Color Palette Extraction from Pictures (presentation 4:12, awarded 1:38:00)		
Grand prize(POSTECH)		2017
Creative Design III: Improved Color Palette Extraction from Pictures		
Grand prize (POSTECH)		2016
Creative Design II: Artistic Video Transfer using Deep Learning		
Full-time scholarship (POSTECH)		2015–2019
Includes tuition fees, a laptop, and a short-term study abroad program.		

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)		

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)

Professional Service   **Paper Reviewer**
Siggraph Asia

References   **Prof. Dr. Jehee Lee**
Technical Advisor, Formerly Chief Research Officer (CRO), NCSOFT
Associate Professor in the Department of Computer Science Seoul National
University (on leave)
jehee@mrl.snu.ac.kr

Prof. Dr. Sehoon Ha
Assistant Professor in the School of Interactive Computing, Georgia Institute
of Technology
sehoonha@gatech.edu