Sunwoo Kim

Email: sunwoo.pulse.kim@gmail.com   **GitHub**: https://github.com/PulseKim/

Phone: (82) 10-4107-0375   **Blog**: https://pulsekim.github.io/

Research interests

- Computer graphics (Physics-based simulation, Computer animation)

- Robotics (Deep reinforcement learning, optimal control)

- Human Gesture (Multimodal agents, Character gesture generation)

- Multiple modalities to body animation (Video to motion, Text to motion)

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

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.

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, Linux, Tensorflow, Pytorch, Physics Simulators(DARTsim, pyBullet, Raisim)

Experienced Robots
UnitreeRobotics A1
Languages
Korean (Native), English (Advanced)

Professional Service   **Paper Reviewer**

Siggraph Asia

References

Prof. Dr. Jehee Lee
Advisor, Formerly Chief Research Officer (CRO), at 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