

# Sunwoo Kim

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HomePage      <https://pulsekim.github.io/>  
Github        <https://github.com/PulseKim>  
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## Research Interest

- Computer graphics (Physics-based simulation, Computer animation)
- Robotics (Deep reinforcement learning, optimal control)
- Human Gesture (Multimodal agents, Character gesture generation)
- Converting multiple modalities to body motion (from video to motion, from text to motion)

## Work Experience

Aug 2022-    **NCSoft**  
Present      *Researcher, Graphics AI Lab*

## Education

Sep 2022    **Seoul National University**  
              *Master Degree in Computer Science*  
              Advisor: [Jehee Lee](#)  
              Unofficial co-advisor: [Sehoon Ha](#)

Feb 2019    **Pohang University of Science and Technology**  
              *BSc in Creative IT Engineering*  
              Magna cum laude (GPA: 3.88)

## Publication

“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.

[Project Page](#)

“HumanConQuad: Human Motion Control of Quadrupedal Robots using Deep RL”  
**Sunwoo Kim**, Maksim Sorokin, Jehee Lee, Sehoon Ha  
Emerging Technologies, Siggraph Asia, 2022.

[ACM site](#)

“Human Motion Control of Quadrupedal Robots using Deep RL”  
**Sunwoo Kim**, Maksim Sorokin, Jehee Lee, Sehoon Ha  
Robotics: Science and Systems (RSS), 2022

[Project Site](#)      [Supplementary video.](#)      [arXiv](#)

## Professional Service

2024      **Paper Reviewer**, Siggraph Asia

## Teaching Experience

**Mar 2021 -**    Teaching Assistant

**Aug 2021**    Head TA of *Core Computing: Thinking with Computers*

**Mar 2018 -**    Undergraduate Tutor

**Aug 2018**    Head Tutor of *Digital system and Micro-processor*

## Awards

2022      Best Master's Thesis Award: 2nd Prize - Korea Computer Graphics Society(KCGS)  
Human Motion Control of Quadrupedal Robots using Deep RL

2018      Creative IT Convergence Korea Grand prize - Ministry of Science and ICT, Korea  
**Improved Color Palette Extraction from Pictures (presentation 4:12, awarded 1:38:00)**

2017      Grand prize - Pohang University of Science and Technology  
Creative Design III - Improved Color Palette Extraction from Pictures

2016      Grand prize - Pohang University of Science and Technology  
**Creative Design II - Artistic Video Transfer using Deep Learning**

## Lab Internship

**Feb 2019 -**    **Movement Research Lab**

**Aug 2019**    *Trajectory optimization, Dexterous hand research*

Advisor: Jehee Lee

**Nov 2017 -**    **Design Intelligence Lab**

**July 2018**    *Sensor communication and sensing, Interactive space design, Hazardous environment alarm system*

Advisor: Juhong Park

**June 2016 -**    **Sport Engineering Lab**

**Dec 2016**    *First person view sports broadcasting in Pyongchang with KBS*

Advisor: Young-seok Kim

Last update: June. 2024.