Sun Woo Kim

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Email: ska503@sfu.ca **Homepage**: https://pulsekim.github.io/ **Linkedin**

Research Interests

- Character animation with both physics-based and kinematics-based
- Deep reinforcement learning for motion control of characters and robots
- Text to motion retrieval and generation
- Body gesture generation for multimodal conversational agents

Education

Simon Fraser University British Columbia, Canada
Ph.D. Student in Computing Science Sep 2025 – Present
Supervisor: Xue Bin (Jason) Peng

Seoul National University Seoul, Korea
Master's degree in Computer Science Sep 2019 – Sep 2022
Supervisor: Jehee Lee
Co-supervisor: Sehoon Ha (Georgia Institute of Technology)
Thesis: *Developing Motion Control of Different Morphology using Deep Reinforcement Learning*

Pohang University of Science and Technology (POSTECH) Pohang, Korea
Bachelor's degree in Creative IT Engineering Feb 2015 – Feb 2019
Magna cumme laude *GPA: 3.88 / 4.3*

Work Experience

NC AI (Spun offed from NCSOFT) Sungnam, Korea
Graphics AI Researcher, Motion Service Lab Feb 2025 – Sep 2025
Research Topic: Text to motion retrieval & Motion generation

NCSOFT Sungnam, Korea
Graphics AI Researcher, Graphics AI Lab Aug 2022 – Feb 2025
Research Topic: Gesture generation & Video to Motion

Publications

Conferences

Body Gesture Generation for Multimodal Conversational Agents
Sunwoo Kim, Minwook Chang, Yoonhee Kim, Jehee Lee
SIGGRAPH Asia, 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 Reinforcement Learning
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
(Submitted)

Workshops

HumanConQuad: Human Motion Control of Quadrupedal Robots using Deep Reinforcement Learning
Sunwoo Kim, Maksim Sorokin, Jehee Lee, Sehoon Ha
Emerging Technologies, SIGGRAPH Asia, 2022.

Awards & Scholarships

Special Grad Entrance Scholarship (CS Department, SFU) 2025
Runner-up: KCGS Master's Award (Korea Computer Graphics Society) 2022
Grand Prize: Creative ICT Forum (Ministry of Science and ICT, Korea) 2018
Grand prize: Creative Design III (POSTECH) 2017
Grand prize: Creative Design II (POSTECH) 2016

Teaching Experience

Teaching assistant, Seoul National University Spring 2021
Core Computing: Computation thinking (Prof. Jehee Lee)
Undergraduate tutor, POSTECH Spring 2018
Intro to Digital System & Microprocessor Design (Prof. Jaejoon Kim)

Professional Service

Paper Reviewer
SIGGRAPH, SIGGRAPH Asia

Other Experience

Booth Staff, NC AI exhibition booth at SIGGRAPH 2025
Assisted in presenting research and interacting with attendees.

References

Prof. Xue Bin (Jason) Peng
Assistant Professor, Simon Fraser University
Research Scientist, NVIDIA
xbpeng@sfu.ca

Prof. Jehee Lee
Professor, Seoul National University
jeheel@snu.ac.kr

Prof. Sehoon Ha
Assistant Professor, Georgia Institute of Technology
sehoonha@gatech.edu