

Sun Woo Kim

Updated September 15, 2025

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

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: Jason Peng
Research Topic: Human motion generation using reinforcement learning

Seoul National University Seoul, Korea
Master's degree in Computer Science Sep 2019 – Sep 2022
Supervisor: Jehee Lee, Sehoon Ha
Research Topic: Human motion control of quadrupedal robots

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

Work Experience

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

NCSoft Sunnam, Korea
AI Researcher, Graphics AI Lab Aug 2022 – Feb 2025
Research Topic: Gesture generation

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 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

(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.

Awards & Scholarships

Special Grad Entrance Scholarship (Computing Science Dept, SFU) 2025

Master's Award: 2nd prize (Korea Computer Graphics Society) 2022

Human Motion Control of Quadrupedal Robots using Deep RL

Grand prize (Ministry of Science and ICT, Korea) 2018

Improved Color Palette Extraction from Pictures (present 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

Teaching Experience

Teaching assistant, Seoul National University Spring 2021

Core Computing: Computation thinking (Dr. Jehee Lee)

Undergraduate tutor, POSTECH Spring 2018

Introduction to Digital System & Microprocessor Design (Dr. 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