JINSEOK BAE

Interested in the data-driven approaches on physics-based character control and human-robot interaction.
Current at the PhD course in 3D Vision Lab, Seoul National University.

CONTACT

capoo95@snu.ac.kr
+82 10 5279 7144
1, Gwanak-ro, Gwanak-gu, Seoul
@jinseokbae

SKILLS

Programming

Python
C++
JavaScript
Matlab
Java

Operating Systems

Linux
Windows
Mac

Software & Tools

PyTorch
Jax
Tensorflow
Isaac Gym
Brax
Webots
Mujoco
OpenGL
WebGL
Blender
Unity
ROS

Languages

Korean
English
OPIc (AL level, 2021.09.25)
Japanese

CURRENT INTERESTS

- **Deep Reinforcement Learning**
  - multi agent RL
  - offline RL
- **Generative Models**
  - diffusion models
  - VAE
- **Robots**
  - multi-robot control
  - shared autonomy
- **Physics-based Animation**
  - human-object interaction
  - whole-body control
  - large scale motion learning
- **3D Vision**
  - neural rendering
  - shape generation

EDUCATION

8/2022 - 7/2026 (expected)
Seoul National University
Ph.D in Electrical and Computer Engineering
GPA: 4.18/4.3

3/2020 - 2/2022
Seoul National University
M.S. in Electrical and Computer Engineering
GPA: 4.18/4.3

3/2014 - 2/2020
Seoul National University
B.S. in Biosystems Engineering
B.S. in Electrical and Computer Engineering
GPA: 3.9/4.3 (*Summa Cum Laude*)

∗ military service completed (2/2016 - 2/2018)

WORK EXPERIENCE

01/2022-07/2022
LG AI Research
human motion generation
Digital Human Team, Vision AI Module

01/2019-02/2019
Samsung Electronics (Intern)
circuit design, c++ tools for debugging
Health H/W development, Mobile Division

SCHOLARSHIPS

Merit-based Scholarship (18'-fall, 19'-spring/fall), *Seoul National University*

Agricultural Engineering Systems Scholarship (15'-spring/fall, 18'-spring), *Agricultural Engineering Systems Scholarship Foundation*

AWARDS

ICRA 2023 Simulated Humanoid Wrestling Challenge

Team Yeti (**Jinseok Bae**, Donggeun Lim, Minseok Kim, Young Min Kim, Jungdam Won)

2023 3rd Place

match, video

keywords : `robot control, deep RL`

TEACHING EXPERIENCE

2021 Summer
Seoul Nat'l Univ.
3D Computer Vision Track for AI Experts (Samsung) (T.A.)

2020 Spring
Seoul Nat'l Univ.
Signals and Systems (T.A.)

2018 Summer
Seoul Nat'l Univ.
Korean Course for Exchange Students from Keio Univ. (T.A.)

ACADEMIC ACTIVITIES

Conference Reviewer (AAAI 2023, ICCV 2023)

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PUBLICATIONS

Dynamic Mesh Recovery from Partial Point Cloud Sequence

Hojun Jang, Minkwan Kim, **Jinseok Bae**, Young Min Kim

2023 ICCV

paper (TBA)

keywords : `3D vision, kinematics learning`

PMP: Learning to Physically Interact with Environments using Part-wise Motion Priors

Jinseok Bae, Jungdam Won, Donggeun Lim, Cheol-Hui Min, Young Min Kim

2023 SIGGRAPH

paper, video

keywords : `physics-based animation, deep RL, whole-body control`

Neural Marionette: Unsupervised Learning of Motion Skeleton and Latent Dynamics from Volumetric Video

Jinseok Bae, Hojun Jang, Cheol-Hui Min, Hyungun Choi, Young Min Kim

2022 AAAI Conference on Artificial Intelligence (AAAI), Oral

paper, video

keywords : `unsupervised learning, 3D vision, kinematics learning`

Auto-rigging 3D Bipedal Characters in Arbitrary Poses

Jeonghwan Kim, Hyeontae Son, **Jinseok Bae**, Young Min Kim

2021 European Association for Computer Graphics (Eurographics) short paper

paper, video

keywords: `neural rigging/skinning, pose estimation`

GATSBI: Generative Agent-centric Spatio-temporal Object Interaction

Cheol-Hui Min, **Jinseok Bae**, Junho Lee, Young Min Kim

2021 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Oral

paper, video

keywords: `unsupervised learning, video prediction, representation learning`

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Python ●●●●●
C++ ●●●●○
JavaScript ●●●○○
Matlab ●●○○○
Java ●●○○○

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Linux ●●●●○
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Isaac Gym ●●●●●
Brax ●●●○○
Webots ●●●○○
Mujoco ●●○○○
OpenGL ●●●○○
WebGL ●●●○○
Blender ●●●○○
Unity ●●○○○
ROS ●○○○○

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