

# 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](mailto: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

- 📅 9/2022 - 8/2025 (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  
Digital Human Team, Vision AI Module  
human motion generation
- 📅 01/2019-02/2019  
📍 Samsung Electronics (Intern)  
Health H/W development, Mobile Division  
circuit design, c++ tools for debugging

## 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)

## PUBLICATIONS

### Dynamic Mesh Recovery from Partial Point Cloud Sequence


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

 2023  ICCV

 [paper](#), [video](#)

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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