

Taeil Jin

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RESEARCH INTERESTS

My research interests include real-time human character animation and humanoid robot animation. My long-term goal is to provide an appropriate human character movement response to human interaction behaviors or diverse furniture. My goal is to create avatar motions that mimic users' interactive behaviors in a given physical space, in order to address problems that may arise due to distance or user's physical limitations during actions performed in that space. Recently, I have researched a machine learning based recognition model/generative model to offer proper user's avatar motion with respect to the target furniture and user's behaviors.

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST) Ph. D. in Culture Technology / Motion Computing Laboratory Advisor: Sung-Hee Lee	Daejeon, South Korea 2023
Korea Advanced Institute of Science and Technology (KAIST) M. S. in Culture Technology / Motion computing Laboratory Advisor: Sung-Hee Lee	Daejeon, South Korea 2016
Kwangwoon University B. S. in Division of Robotics (Intelligence System) Advisor: Moon-ho Chung	Seoul, South Korea 2014

RESEARCH EXPERIENCE

- **(Conference Session Chair), Pacific Graphics, 2023.**
As a session chair of Pacific Graphics 2023, managing the proceedings of a presentation session, ensuring that presentations run smoothly and maintaining the schedule.
- **(Visiting Scholar), Planning the End-Effectors trajectory for quadruped robot, 2019.**
Edinburgh university (supervised by professor steve tonneau)
As a visiting student of Edinburgh university, studying the trajectory planning for quadruped robot using optimizer.
- **(Research Project), Virtual avatar animation for contact interaction with real furniture, 2015 - 2019.**
Ministry of Science, ICT and Future Planning, Grobal Frontier Project
As a leading researcher of the project, developed motion retargeting method for 3D human avatar response to different furniture with human-space furniture.
- **(Real-time Demonstration), Real-time demonstration of generating the avatar motion for dissimilar environments, 2016-2019.**
KAIST
As a leading developer of the real-time demonstration, implemented the real-time framework for generating the user's avatar motion, and demonstrated the avatar-mediated telepresence for dissimilar environment. I participated as the main presenter of a real-time demonstration for promoting our laboratory and department, using an implemented real-time framework.
- **(Motion Data Acquisition), Constructing trainable motion data using motion capture device and implemented motion retargeting framework., 2018-2023**
(Position: Assistant), KAIST

PUBLICATIONS/CONFERENCE

International Journals

1. DAFNet: Generating Diverse Actions for Furniture Interaction by Learning Conditional Pose Distribution [\[Project page\]](#)
Taeil Jin, Sung-Hee Lee
Computer Graphics Forum (CGF), 37(2):311-320, (to be presented at Pacific Graphics 2023)
2. Aura Mesh: Motion Retargeting to Preserve the Spatial Relationships between Skinned Characters [\[Project page\]](#)
Taeil Jin, Meekyoung Kim and Sung-Hee Lee
Computer Graphics Forum (CGF), 37(2):311-320, (to be presented at Eurographics 2018)

International Conferences

3. SmartManikin: virtual humans with Agency for Design Tools [\[Project page\]](#)
Bokyoung Lee, **Taeil Jin**, Sung-Hee Lee, and Daniel Saakes
ACM Conference on Human Factors in Computing Systems (CHI), (CHI 2019)
4. Trajectory-Free Reactive Stepping of Humanoid Robots Using Momentum Control [\[Project page\]](#)
Hyunchul Choi, Sukwon Lee, **Taeil Jin**, and
Sung-Hee Lee
IEEE-RAS International Conference on Humanoid Robots 2015

Posters

5. Interaction Motion Retargeting to Highly Dissimilar Furniture Environment [\[Paper\]](#)
Taeil Jin and Sung-Hee Lee
ACM SIGGRAPH / Eurographics Symposium on Computer Animation (SCA) 2019 Posters, page 8. ACM, 2019.
6. Motion Retargeting Preserve Spatial Relationship between Skinned Characters [\[Paper\]](#)
Taeil Jin, Meekyoung Kim and Sung-Hee Lee
ACM SIGGRAPH / Eurographics Symposium on Computer Animation (SCA) 2017 Posters, page 25. ACM, 2017.
7. Avatar-Mediated Contact Interaction between Remote Users for Social Telepresence [\[Paper\]](#)
Jihye Oh, Yeonjoon Kim, **Taeil Jin**, Sukwon Lee, Youjin Lee and Sung-Hee Lee
The 14th IEEE International Symposium on Mixed and Augmented Reality (ISMAR), page 1., 2015.
8. Trajectory-Free Reactive Stepping Of Physics-Based Character Using Momentum Control [\[Paper\]](#)
Sukwon Lee, Hyunchul Choi, **Taeil Jin** and Sung-Hee Lee
Proceedings of the ACM SIGGRAPH / Eurographics Symposium on Computer Animation (SCA), page 202., 2015.

PATENTS

1. Motion Retargeting Method to Preserve the Spatial Relationships between Skinned Characters and Apparatus therefor
Sung-Hee Lee, **Taeil Jin**, and Meekyoung Kim
KOR application number: 10-2020-0005894

AWARDS

- The honorable mention poster in ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA) in 2019

MEDIA COVERAGE

- The research achievement in the lab (about Global Frontier Project), Channel NewsAsia (Singapore), 2017 [\[Page\]](#)
- The research achievement in SmartManikin: Virtual Humans with Agency for Design Tools, Seamless (Japanese Media), 2019 [\[Page\]](#)
- The research achievement in the lab (about Global Frontier Project), HelloDD(which is Korea's No.1 Media in Science and Industry), 2015 [\[Page\]](#)

TECHNICAL SKILLS

- Programming Languages: C/C++, C#, Python, Matlab, CMake
- Operating Systems: Windows, Linux/Unix
- Libraries: Eigen, OpenGL, Igl, Alglib, Dlib, PyTorch
- Professional Tools: Maya, Unity, Premiere, MotionBuilder, Docker
- Experience of Motion Capture Device : Axis Neuron, xsense, OptiTrack, Kinect v1/v2, Zed
- Experience of AR/VR device : Oculus Rift dk1/dk2, Hololens v1

REFERENCES

FROM ACADEMIA

Sung-Hee Lee

Professor

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