

# Taehei Kim

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## Education

- 2021 – 2026     **Ph.D. Candidate, Korea Advanced Institute of Science & Technology (KAIST)** Cultural Technology
- 2018 – 2021     **M.S., Korea Advanced Institute of Science & Technology (KAIST)** Cultural Technology
- 2013 – 2018     **BA., Yonsei University** Asian Studies & Computer Science

## Research Projects

- 2024 – 2025     **Korea Radio Promotion Association (RAPA).** Mixed Reality Telepresence System Research.
- 2023 – 2024     **National Research Foundation of Korea.** Study on Mixed Reality Scene in Heterogeneous Spaces.
- 2022 – 2023     **National Research Foundation of Korea.** Study on Perception Toward Motion Adaptation for Avatars in Heterogeneous Spaces.
- 2021 – 2022     **Korea Institute for Advancement of Technology (KIST).** Virtual and Augmented Reality Expert Foster Project.
- 2020 – 2021     **Agency for Defense Development, Korea (ADD).** Development of quadrupedal robot system technology for monitoring, reconnaissance, and search missions.

## Research Publications

- 1 J. Kang, **T. Kim**, H. Kim, and S.-H. Lee, “Real-time translation of upper-body gestures to virtual avatars in dissimilar telepresence environments,” *IEEE Transactions on Visualization and Computer Graphics*, 2025.
- 2 **T. Kim**, H. Kim, J. Lee, and S.-H. Lee, “Evaluating user perception toward physics-adapted avatar in remote heterogeneous spaces,” *Computers & Graphics*, vol. 128, p. 104 185, 2025.
- 3 **T. Kim**, J. Shin, H. Kim, H. Jang, J. Kang, and S.-H. Lee, “Voronoi rooms: Dynamic visibility modulation of overlapping spaces for telepresence,” *ACM Trans. Graph.*, vol. 45, no. 2, Dec. 2025, ISSN: 0730-0301.  
DOI: [10.1145/3777900](https://doi.org/10.1145/3777900).
- 4 J. Shin, H. Kim, E. Lee, D. Shin, K. Lee, **T. Kim**, H. Kim, J. An, and S.-H. Lee, “Situated embodied xr agents via spatial reasoning and prompting,” Oct. 2025, pp. 933–934. DOI: [10.1109/ISMAR-Adjunct68609.2025.00255](https://doi.org/10.1109/ISMAR-Adjunct68609.2025.00255).

- 5 T. Kim, J. Shin, H. Kim, H. Jang, J. Kang, and S.-H. Lee, “Visibility modulation of aligned spaces for multi-user telepresence,” in *2024 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, IEEE, 2024, pp. 626–627.
- 6 D. Yang, J. Kang, T. Kim, and S.-H. Lee, “Visual guidance for user placement in avatar-mediated telepresence between dissimilar spaces,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 30, no. 12, pp. 7558–7570, 2024.
- 7 J. Kang, D. Yang, T. Kim, Y. Lee, and S.-H. Lee, “Real-time retargeting of deictic motion to virtual avatars for augmented reality telepresence,” in *2023 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, IEEE, 2023, pp. 885–893.
- 8 H. Jang, T. Kim, S. Oh, J. Lee, S. Lee, and S. H. Yoon, “Sense of embodiment inducement for people with reduced lower-body mobility and sensations with partial-visuomotor stimulation,” in *ACM SIGGRAPH 2022 Emerging Technologies*, 2022, pp. 1–2.
- 9 H.-I. Kim, T. Kim, E. Song, S. Y. Oh, D. Kim, and W. Woo, “Multi-scale mixed reality collaboration for digital twin,” in *2021 IEEE international symposium on mixed and augmented reality adjunct (ISMAR-Adjunct)*, IEEE, 2021, pp. 435–436.
- 10 T. Kim and S.-H. Lee, “Quadruped locomotion on non-rigid terrain using reinforcement learning,” *arXiv preprint arXiv:2107.02955*, 2021.

## Skills

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| Programming Languages | ■ I mainly use C# and Python to build my systems.    |
| Tools and Hardware    | ■ I mainly build systems using Unity and VR devices. |
| Languages             | ■ Korean (Native), English (Fluent)                  |

## Miscellaneous Experience

### Awards and Achievements

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| 2025      | ■ <b>Excellence Award</b> , Metaverse Developer Contest, RAPA.   |
| 2024      | ■ <b>Best Demo Honorable Mention</b> , “Visibility Modulation of Aligned Spaces for Multi-User Telepresence,” ISMAR. |
| 2021-2025 | ■ <b>Fully Funded Fellowship</b> , KAIST.  |
| 2021      | ■ <b>Tenacity Scholarship</b> , KAIST.   |
|           | ■ <b>First Place</b> , ‘Hello, World!: new playground’, Art Center NABI.   |
| 2018-2021 | ■ <b>Fully Funded Fellowship</b> , KAIST.  |

### Metaverse Consultant Experience

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| 2021 - 2023 | ■ <b>Metaverse Consultant</b> . I worked with several organizations including Dangjin Cultural Foundation, Daejeon Culture and Arts Foundation, Hanwha Galleria Department Store, 3PROTV to support metaverse event and projects. |
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## References