# Hanbyel Cho

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## Work Experience

○ **Meta Reality Labs, XR Input Perception**  **Redmond, WA, USA**
*Research Scientist Intern* (Manager: Cem Keskin)  June 2024 - Dec. 2024

○ **Meta Reality Labs, Codec Avatars Lab**  **Pittsburgh, PA, USA**
*Research Scientist Intern* (Manager: Wei Pu)  Dec. 2023 - Feb. 2024

## Publications

○ Efficient Dynamic Scene Editing via 4D Gaussian-based Static-Dynamic Separation
Joohyun Kwon*, **Hanbyel Cho**\*, Junmo Kim (*Equal contribution)
*Under Review*, 2025

○ Foreseeing Reconstruction Quality of Gradient Inversion: An Optimization Perspective
Hyeong Gwon Hong, Yooshin Cho, **Hanbyel Cho**, Jaesung Ahn, Junmo Kim
*The 38th Annual AAAI Conference on Artificial Intelligence* **(AAAI)**, 2024

○ Generative Approach for Probabilistic Human Mesh Recovery using Diffusion Models
**Hanbyel Cho**, Junmo Kim
*IEEE/CVF International Conference on Computer Vision* **(ICCV)**, 2023, *CV4Metaverse Workshop*

○ Implicit 3D Human Mesh Recovery using Consistency with Pose and Shape from Unseen-view
**Hanbyel Cho**, Yooshin Cho, Jaesung Ahn, Junmo Kim
*IEEE/CVF Conference on Computer Vision and Pattern Recognition* **(CVPR)**, 2023

○ Video Inference for Human Mesh Recovery with Vision Transformer
**Hanbyel Cho**, Jaesung Ahn, Yooshin Cho, Junmo Kim
*IEEE International Conference on Automatic Face and Gesture Recognition* **(IEEE FG)**, 2023

○ Localization using Multi-Focal Spatial Attention for Masked Face Recognition
Yooshin Cho, **Hanbyel Cho**, Hyeong Gwon Hong, Jaesung Ahn, Dongmin Cho, Junmo Kim
*IEEE International Conference on Automatic Face and Gesture Recognition* **(IEEE FG)**, 2023

○ Rethinking Efficacy of Softmax for Lightweight Non-Local Neural Networks
Yooshin Cho, Youngsoo Kim, **Hanbyel Cho**, Jaesung Ahn, Hyeong Gwon Hong, Junmo Kim
*IEEE International Conference in Image Processing* **(ICIP)**, 2022

○ Camera Distortion-aware 3D Human Pose Estimation in Video with Optimization-based Meta-Learning
**Hanbyel Cho**, Yooshin Cho, Jaemyung Yu, Junmo Kim
*IEEE/CVF International Conference on Computer Vision* **(ICCV)**, 2021

○ Improving Generalization of Batch Whitening by Convolutional Unit Optimization
Yooshin Cho, **Hanbyel Cho**, Youngsoo Kim, Junmo Kim
*IEEE/CVF International Conference on Computer Vision* **(ICCV)**, 2021

## Education

○ **Korea Advanced Institute of Science and Technology (KAIST)**  **Daejeon, Korea**
*PhD in Electrical Engineering* (Advisor: Prof. Junmo Kim)  Mar. 2020 - Feb. 2025
Dissertation: High-Fidelity Human Body Model Reconstruction in Unconstrained Situations

○ **Korea Advanced Institute of Science and Technology (KAIST)**  **Daejeon, Korea**
*MS in Electrical Engineering* (Advisor: Prof. Junmo Kim)  Mar. 2018 - Feb. 2020
Thesis: Improving Performance of Face Super-Resolution with Stochastic Attributes Modeling

○ **Korea Advanced Institute of Science and Technology (KAIST)**  **Daejeon, Korea**
*BS in Electrical Engineering*  Mar. 2013 - Feb. 2018

## Skills

- **Computer Vision:** Foundation Models, Vision Language Models, Diffusion Models, ConvNets, Transformers, Mamba, Image Classification, Object Detection, Image Segmentation, 3D Object Recognition, 3D Human Pose Estimation, Egocentric Vision, Self-supervised Learning, Camera Models.
- **Programming:** PyTorch, TensorFlow, Python, Numpy, MATLAB, C, LaTeX

## Academic Service

- **Conference Reviewer:** CVPR, ICCV, ECCV, NeurIPS, ACCV
- **Journal Reviewer:** TIP, JVCI

## Awards & Scholarships

- **Finalist, Qualcomm Innovation Fellowship Korea**                    Nov. 2023
  *Hosted by Qualcomm Korea, Inc.*
  Recognized for the first-authored paper titled: Implicit 3D Human Mesh Recovery using Consistency with Pose and Shape from Unseen-view (CVPR, 2023)
- **Excellent Presentation Award, CARAI Academic Workshop**                    Oct. 2023
  *Hosted by Center for Applied Research in Artificial Intelligence (CARAI)*
- **Finalist, Qualcomm Innovation Fellowship Korea**                    Nov. 2022
  *Hosted by Qualcomm Korea, Inc.*
  Recognized for the first-authored paper titled: Camera Distortion-aware 3D Human Pose Estimation in Video with Optimization-based Meta-Learning (ICCV, 2021)
- **Governmental Scholarship for KAIST Graduate Students**                    2018 - 2024
- **Governmental Scholarship for KAIST Undergraduate Students**                    2013 - 2017

## References

- **Intern Manager:** Cem Keskin, Principal Scientist, Meta
- **Intern Manager:** Wei Pu, Engineering Manager, Meta
- **MS/PhD Advisor:** Junmo Kim, Professor, School of Electrical Engineering, KAIST