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