Haeyun Choi

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Research Interests

My research interests span various topics in computer vision, emphasizing real-world applications. I am currently focused on robust 3D scene representations and rendering techniques that remain effective under challenging conditions. The goal of my research is to move beyond idealized assumptions, embracing the complexities of real-world scenarios.

Education

MS   **POSTECH**, Artificial Intelligence   Mar 2023 – Feb 2025
- Advisor: Prof. Sunghyun Cho ☒
- Thesis: *"Exploiting Deblurring Networks for Radiance Fields"*

BS   **Korea University**, Biomedical Engineering   Mar 2015 – Aug 2022

Publications

Exploiting Deblurring Networks for Radiance Fields   2025
Haeyun Choi, Heemin Yang, Janghyuk Han, Sunghyun Cho
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2025)
Workshop on Image Processing and Image Understanding (IPIU 2025, oral)

Optical Flow-based Shakiness Detection in Dash-cams for Hit-and-Run Accident Analysis   2024
Haeyun Choi, Sunghyun Cho
Workshop on Image Processing and Image Understanding (IPIU 2024)

AutoCycle-VC: Towards Bottleneck-Independent Zero-Shot Cross-Lingual Voice Conversion   2023
Haeyun Choi, Jio Gim, Yuho Lee, Youngin Kim, Young-Joo Suh
arXiv preprint

Awards and Honors

Outstanding Paper Award, IPIU 2025 (link) ☒   2025
KT-POSTECH AI Expert Program Scholarship $7,800 x 4 (link) ☒   2023 - 2025
Excellence Prize, POSCO Youth Academy AI Competition   2022
Grand Prize, AI for Health & SDGs Competition (link) ☒   2021
Hongsan Scholarships $1,700   2021
Mirae Asset Exchange Student Scholarships $3,100 (link) ☒   2021

Experience

KT R&D Center, Research Scientist   Seoul, South Korea
- Developing an AI spatial assistant for smart glasses   Mar 2025 – Present
- Curating multimodal datasets for KT's proprietary MLLM

POSTECH Institute of Artificial Intelligence, Research Scientist   Pohang, South Korea
- Voice conversion using mel-spectrogram representation   May 2022 – Feb 2023
- Video shakiness detection using optical flow statistics

Projects

Real-time Danger Alert for Convenience Stores by Motion and Voice Recognition   2022
- Developed a violence detection system for store clerks
- Applied top-down pose estimation and lightweight classification models
- Created a 20k-image dataset and enabled real-time SMS alerts with incident frames

Wear Your Mask On: Real-time Mask Detection & Warning System   2021
- Developed a mask detection system for COVID-19 public safety
- Applied MobileNet and Haar Cascade for efficient face and mask detection
- Delivered instant on-screen and audio alerts via real-time video processing

Teaching Experience

POSCO Youth AI Bigdata Academy (Video ↗)   Sep 2023
- Teaching Assistant (Topic: Computer Vision)
- Led hands-on sessions and mentored AI projects

Extracurricular Activities

Team-Mate Mentorship Program (K-Digital Training ↗, KCCI ↗)   Aug 2024 – Present
- Selected as 1st cohort mentor ↗ in a national career development program
- Peer mentorship program, supporting junior trainees in career navigation
- Engaged in job camps ↗ and social contribution programs ↗

Military Service (Republic of Korea Air Force ↗)   Aug 2016 – Aug 2018
- Sergeant as Operations
- Maintained 24/7 emergency standby status for mission deployment
- Managed mission planning and scheduling for search and rescue operations

Student Representative (Biomedical Engineering, Korea University)   Mar 2015 – Aug 2016
- Volunteered as student representative
- Helped organize departmental events and student activities

Skills & Languages

Skills   Python, Blender, MATLAB

Languages   Korean: Native, English: Fluent (TOEIC 925, TOEFL 100)