Min-Jung Kim

Ph.D. Candidate, KAIST Graduate School of AI

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RESEARCH INTEREST

Computer vision and graphics applications, including but not limited to:

– 3D reconstruction
– Video analysis and applications
– Network architecture for 3D/Video understanding

EDUCATION

Ph.D. Candidate, Kim Jaechul Graduate School of AI, KAIST, Korea   Sep 2021–Present
Advisors: Profs. Jaegul Choo
GPA: 4.09/4.3 (97.9/100)

M.S., Dept. of Electrical Engineering, KAIST, Korea   Feb 2012 – Feb 2014
Advisor: Prof. In So Kweon
Thesis Title: Depth Estimation for Light Field Camera using Multi-Cue Integrated Cost Volume
GPA: 3.75/4.3 (93.88/100)

B.S., Dept. of Electrical Engineering, SKKU, Korea   Mar 2008 – Aug 2011
Advisor: Prof. Tae-Yong Kuc
Graduation Project: Smart-Oriented Driving in the U-City (link to the video)
GPA: 4.1/4.5 (95.5/100) (Early Graduation)

WORK EXPERIENCE

Research Engineer, LG Electronics CTO Division   Feb 2014–Aug 2021

AIRSTAR Project (2017–2020)

AIRSTAR at Incheon Airport

– Real-time multi-object tracking (MOT) algorithm implementation using RGBD camera, 2D LiDAR, and odometry data. The algorithm is implemented in C++ and CUDA.

– Deployed MOT algorithm into the airport guidance robot (AirStar). AirStar has been operating since Aug 2018 at ICN Airport.

– Deplyed the MOT algorithm to Xavier board and TX2 board. (Applied TensorRT engine to accelerate.)

LGE Inference Engine Update (2015–2016)

– Add Localization Feature to the LGE inference engine, which had classification feature only, referring "OverFeat", ICLR, 2013. Implemented in C++.

– Implement a Life-logger prototype (composed of a webcam, board with LGE inference engine, and battery). Demonstrate it in a portable way.

Resolving Perspective Distortion in Human Faces (2014)

– Developed a method to remove perspective distortion using a semi-spherical image plane.

Intern, System LSI, Samsung Electronics   Dec 2010 – Feb 2011
Implemented a program that converts color space in Verilog (Hardware Description Language).

HONOR & AWARD

2009–2011 **Awards**
1st Prize (Team), *25th LG Software Trainee Course* (2015).
2nd Prize (Individual), *25th LG Software Trainee Course* (2015).
1st Prize (Team), *SungKyunKwan Univ. Graduation Project* (2011).
2nd Prize (Team), *10th KRSA robot soccer competition* (2009).

2009–2011 **Scholarships**
Samsung Talent Program Scholarship (2011).
SungKyunKwan Univ. State Scholarship, 5 out of 7 semesters (2009–2011).

PUBLICATION (INTERNATIONAL)

Equal contribution is denoted by "" and the correspondence is annotated with* <u>underline</u>.

[C6]   A paper on "pose guided video generation," *submitted*.

[C5]   A paper on "extrapolative novel view synthesis," *submitted*.

[C4]   **Min-Jung Kim**, Gyojung Gu, and <u>Jaegul Choo</u>, "LensNeRF: Rethinking Volume Rendering Based on Thin-Lens Camera Model," *WACV*, 2024.

[C3]   Sungwon Hwang, Junha Hyung, Daejin Kim, **Min-Jung Kim**, and <u>Jaegul Choo</u>, "Faceclipnerf: Text-driven 3d face manipulation using deformable neural radiance fields," *ICCV*, 2023.

[C2]   Su Ho Han, Sukjun Hwang, Seoung Wug Oh, Yeonchool Park, Hyunwoo Kim, **Min-Jung Kim**, and <u>Seon Joo Kim</u>, "Visolo: Grid-based space-time aggregation for efficient online video instance segmentation," *CVPR*, 2022.

[C1]   **Min-Jung Kim**, Tae-Hyun Oh, and <u>In So Kweon</u>, "Cost-Aware Depth Map Estimation for LYTRO Camera," *ICIP*, 2014.

ACADEMIC SERVICE

Student volunteer of the 11th ACCV, 2012.

TEACHING

Tech Seminar, SK Telecom

– *Computer Vision SOTA paper review (August 7, 2023)*

Teaching Assistant, KAIST

– *KAIST ML Bootcamp (June 21, 2024)*

– *Electrical Circuit (Spring 2013)*

– *Data Structure (Fall 2012)*