

Jaehoon Choi

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EDUCATION

University of Maryland, College Park

- Ph.D. in Computer Science

Jan 2021 – Present

Korea Advanced Institute of Technology (KAIST)

- M.S. in Electrical Engineering
 - Adviser: Prof. Changick Kim

Sep 2017 – Dec 2019

Korea Advanced Institute of Technology (KAIST)

- B.S. in Electrical Engineering
 - Minor: Business and Technology Management
 - Korean Augmentation to the United States Army (mandatory military service)

Feb 2011 – Aug 2017

Oct 2014 – Jul 2016

RESEARCH INTERESTS

Computer Vision, Machine Learning, and Robotics.

PUBLICATIONS

INTERNATIONAL CONFERENCES

- [1] Taekyung Kim, **Jaehoon Choi**, Seokeon Choi, Dongki Jung, and Changick Kim, “Just a Few Points are All You Need for Multi-view Stereo: A Novel Semi-supervised Learning Method for Multi-view Stereo”, *International Conference on Computer Vision (ICCV)* 2021.
- [2] Dongki Jung*, **Jaehoon Choi***, Yonghan Lee, Deokhwa Kim, Changick Kim, Dinesh Manocha, and Donghwan Lee, “DnD: Dense Depth Estimation in Crowded Indoor Dynamic Scenes”, *International Conference on Computer Vision (ICCV)* 2021. (* These two authors contributed equally)
- [3] **Jaehoon Choi**, Dongki Jung, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, and Donghwan Lee, “SelfDeco: Self-Supervised Monocular Depth Completion in Challenging Indoor Environments”, *The IEEE International Conference on Robotics and Automation (ICRA)*, 2021.
- [4] **Jaehoon Choi***, Dongki Jung*, Donghwan Lee, and Changick Kim, “SAFENet: Self-Supervised Monocular Depth Estimation with Semantic-Aware Feature Extraction”, *Neural Information Processing Systems Workshop (NeurIPS) on Machine Learning for Autonomous Driving*, Vancouver, Canada, 2020. (* These two authors contributed equally)
- [5] Dongki Jung, Seunghan Yang, **Jaehoon Choi**, and Changick Kim, “Arbitrary Style Transfer Using Graph Instance Normalization”, *The 27th IEEE International Conference on Image Processing (ICIP)*, Abu Dhabi, UAE, 2020
- [6] **Jaehoon Choi**, Taekyung Kim, and Changick Kim, “Self-Ensembling with GAN-based Data Augmentation for Domain Adaptation in Semantic Segmentation”, *International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 2019
- [7] Seunghyeon Kim, **Jaehoon Choi**, Taekyung Kim, and Changick Kim, “Self-Training with Adversarial Background Regularization for Unsupervised Domain Adaptive One-Stage Object Detection”, *International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 2019 (**Oral**)
- [8] **Jaehoon Choi**, Minki Jeong, Taekyung Kim, and Changick Kim, “Pseudo-Labeling Curriculum for Unsupervised Domain Adaptation”, *British Machine Vision Conference (BMVC)*, Cardiff, UK, 2019

OTHER PUBLICATIONS

- [1] **Jaehoon Choi**, Daeyeong Kim, Dongwon Yang, Junhee Lee, Dokyung Kim, Changick Kim, “Channel Pruning Scaling Factor of Batch Normalization in Compact Networks”, *Journal of the Institute of Electronics and Information Engineers*, vol. 56, No. 3, Mar 2019.

PROFESSIONAL EXPERIENCE

- **Research Internship** at NAVER LABS
 - Manager: *Ph.D. Donghwan Lee*
 - Developed a SLAM algorithm for the mobile robot.

Jun 2021 – Aug 2021

- **Research Internship** at NAVER LABS
 - Manager: *Ph.D. Donghwan Lee*
 - Developed a depth estimation algorithm for robotics systems.

Jan 2020 – Dec 2020

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| PROJECT EXPERIENCE | <ul style="list-style-type: none"> ■ 3D Object Recognition Algorithm for Autonomous Driving May 2019 – Nov 2019 <ul style="list-style-type: none"> ● Funded by <i>LG Electronics Co., Ltd</i> ● Aimed at Developing the 2D object detection and depth estimation for stereo RGB images and FIR images. ■ Deep Learning Algorithm on Embedded Systems for Vision Tasks Jan 2018 – Dec 2018 <ul style="list-style-type: none"> ● Funded by <i>LIG Nex1 Co., Ltd</i> ● Developed the visual recognition algorithm on the embedded system, which requires light and efficient deep learning. ■ Deep Learning-based Defect Detection Apr 2017 – Dec 2017 <ul style="list-style-type: none"> ● Funded by <i>Samsung Electronics Co., Ltd</i> ● Aimed at developing the automatic surface defect detection algorithm for mobile phone based on deep learning. |
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| TEACHING | <ul style="list-style-type: none"> ■ University of Maryland College Park, Teaching Assistant Sep 2021 – Dec 2021 <ul style="list-style-type: none"> ● CMSC250 – Discrete Structure ■ University of Maryland College Park, Teaching Assistant Feb 2021 – May 2021 <ul style="list-style-type: none"> ● CMSC426 – Computer Vision ■ KAIST, Teaching Assistant Mar 2019 – Jul 2019 <ul style="list-style-type: none"> ● EE838 – Special Topics in Image Engineering <Optimization for Computer Vision> ■ KAIST, Student Tutor Mar 2017 – Jul 2017 <ul style="list-style-type: none"> ● Student tutor for foreign students: CS101 – Introduction to Programming |
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| ACADEMIC ACTIVITIES | <ul style="list-style-type: none"> ■ Conference Reviewer <ul style="list-style-type: none"> ● CVPR 2020, WACV 2021, ACCV 2020, AAAI 2021, ICRA 2021, CVPR 2021, AAAI 2022 ● Chosen as one of 66 outstanding reviewers of ACCV 2020 |
| OTHER ACTIVITIES | <ul style="list-style-type: none"> ■ Large-scale 3D Shape Reconstruction and Segmentation from Shapenet Core55 Aug 2017 – Oct 2017 <ul style="list-style-type: none"> ● Participated in the 3D shape segmentation from ShapeNet challenge held in ICCV 2017. ■ Korean Augmentation to the United States Army Oct 2014 – Jul 2016 <ul style="list-style-type: none"> ● Served in the 6-52 Air Defense Artillery in U.S.Army as a translator (mandatory military duty). |
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| LANGUAGES | <ul style="list-style-type: none"> ■ Korean: Native language. ■ English: Fluent (speaking, reading, writing). |
| SKILLS | Python, MATLAB, C, C++, ROS, Docker, \LaTeX , PyTorch, TensorFlow, Caffe. |
| REFERENCES | <ul style="list-style-type: none"> ■ Donghwan Lee Computer Vision Team Leader @ NAVER LABS 8 Gumi-ro, Gumi 1(il)-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea donghwan.lee@naverlabs.com ■ Professor Changick Kim Professor in School of Electrical Engineering, Korea Advanced Institute of Science and Technology (KAIST) changick@kaist.ac.kr |
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[CV compiled on 2021-10-18]