

# Jaehoon Choi

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## EDUCATION

### University of Maryland, College Park

- Ph.D. in Computer Science  
● Adviser: Prof. Dinesh Manocha

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

Depth Estimation, SLAM, Autonomous Navigation, and Domain Adaptation.

## PUBLICATIONS

### INTERNATIONAL CONFERENCES

- [1] **Jaehoon Choi**, Dongki Jung, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, and Donghwan Lee, “SelfDeco: Self-Supervised Monocular Depth Completion in Challenging Indoor Environments”, Submitted to *The IEEE International Conference on Robotics and Automation (ICRA)*, 2021.
- [2] **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 Workshop) on Machine Learning for Autonomous Driving*, Vancouver, Canada, 2020. (\* These two authors contributed equally)
- [3] 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
- [4] **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
- [5] 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**)
- [6] **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*  
● Developing a depth estimation algorithm for robotics systems.

Jan 2020 – Dec 2020

## PROJECT EXPERIENCE

- 3D Object Recognition Algorithm for Autonomous Driving  
● Funded by *LG Electronics Co., Ltd*  
● Aimed at Developing the 2D object detection and depth estimation for stereo RGB images and FIR images.  
May 2019 – Nov 2019
- Deep Learning Algorithm on Embedded Systems for Vision Tasks  
● Funded by *LIG Nex1 Co., Ltd*  
● Developed the visual recognition algorithm on the embedded system, which requires light and efficient deep learning.  
Jan 2018 – Dec 2018
- Deep Learning-based Defect Detection  
● Funded by *Samsung Electronics Co., Ltd*  
Apr 2017 – Dec 2017

- Aimed at developing the automatic surface defect detection algorithm for mobile phone based on deep learning.

## TEACHING

- KAIST, Teaching Assistant  
● EE838–Special Topics in Image Engineering <Optimization for Computer Vision> Mar 2019 – Jul 2019
- KAIST, Student Tutor  
● Student tutor for foreign students: CS101–Introduction to Programming Mar 2017 – Jul 2017

## ACADEMIC ACTIVITIES

- Conference Reviewer  
● CVPR 2020, WACV 2021, ACCV 2020, AAAI 2021, ICRA 2021, CVPR 2021  
● Chosen as one of 66 outstanding reviewers of ACCV 2020

## OTHER ACTIVITIES

- Large-scale 3D Shape Reconstruction and Segmentation from Shapenet Core55 Aug 2017 – Oct 2017  
● Participated in the 3D shape segmentation from ShapeNet challenge held in ICCV 2017.
- Korean Augmentation to the United States Army Oct 2014 – Jul 2016  
● Served in the 6-52 Air Defense Artillery in U.S.Army as a translator (mandatory military duty).

## LANGUAGES

- Korean: Native language.
- English: Fluent (speaking, reading, writing).

## SKILLS

Python, MATLAB, C, C++, ROS, Docker, L<sup>A</sup>T<sub>E</sub>X, PyTorch, TensorFlow, Caffe.

## REFERENCES

- **Dinesh Manocha**  
Professor of Computer Science and Professor of Electrical and Computer Engineering  
University of Maryland, College Park  
dmanocha@umd.edu
- **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

[CV compiled on 2021-02-11]