Jaehoon Choi

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EDUCATION

University of Maryland, College Park

- Ph.D. in Computer Science — Jan 2021 – Present
  - Adviser: Prof. Dinesh Manocha

NAVER LABS

- Research Intern at Computer Vision Team — Jan 2020 – Jan 2021
  - Adviser: Ph.D. Donghwan Lee

Korea Advanced Institute of Technology (KAIST)

- M.S. in Electrical Engineering — Sep 2017 – Dec 2019
  - Adviser: Prof. Changick Kim

Korea Advanced Institute of Technology (KAIST)

- B.S. in Electrical Engineering — Feb 2011 – Aug 2017
  - Minor: Business and Technology Management
  - Korean Augmentation to the United States Army (mandatory military service) — 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 (**NeurIPSW**) 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.

PROJECT EXPERIENCE

- 3D Object Recognition Algorithm for Autonomous Driving — May 2019 – Nov 2019
  - Funded by ***LG Electronics Co., Ltd***
  - 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
  - Funded by ***LIG Nex1 Co., Ltd***
  - 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
  - Funded by ***Samsung Electronics Co., Ltd***
  - Aimed at developing the automatic surface defect detection algorithm for mobile phone based on deep learning.

TEACHING

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

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, LaTeX, 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

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