

Jaehoon Cho

PH.D. CANDIDATE · YONSEI UNIVERSITY

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Summary

Research Interest Machine Learning, Computer vision, Image processing

Current Focus Monocular Depth Estimation, Deep-learning-based Image Processing, particularly Single Image De-raining

Education

Yonsei University

PH.D. CANDIDATE IN SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING

Seoul, S.Korea

Mar. 2016 - Present

Korea Aerospace University

B.S. IN ELECTRONIC ENGINEERING AND AVIONICS

Goyang, Gyeonggi, Korea

Mar. 2010 - Feb. 2016

Publication

International Journal

“Single Image Deraining using Time-laspe data”

JAEHOON CHO, SEUNGRYONG KIM, DONGBO MIN, AND KWANGHOON SOHN

Jun. 2020

- IEEE Trans. on Image Processing (TIP), vol. 29, pp. 7274-7289, (Impact factor: 9.340)

“Pyramid Inter-Attention for High Dynamic Range Imaging”

SUNGIL CHOI, JAEHOON CHO, WONIL SONG, JIHWAN CHOE, JISUNG YOO, AND KWANGHOON SOHN

Jun. 2020

- Sensors, vol. 20, pp. 5102, (Impact factor: 3.031)

“Deep Monocular Depth Estimation Leveraging a Large-scale Outdoor Stereo Dataset”

JAEHOON CHO, DONGBO MIN, YOUNGJUNG KIM, AND KWANGHOON SOHN

Mar. 2021

- Expert Systems With Applications (Impact factor: 5.452)
- Project page: <http://dimlrgbd.github.io>

“Memory-guided Image Deraining using Time-laspe data”

JAEHOON CHO, SEUNGRYONG KIM, AND KWANGHOON SOHN

Aug. 2021

- IEEE Trans. on Image Processing (TIP), (Submitted)

International Conference

“Multi-task Self-supervised Visual Representation Learning for Monocular Road Segmentation”

JAEHOON CHO, YOUNGJUNG KIM, HYUNGJOO JUNG, CHANGJAE OH, JAESEUNG YOUN, AND KWANGHOON SOHN

July. 2018

- IEEE Conference on Multimedia and Expo (ICME), (Oral, acceptance rate 15%)

“Wide and Narrow: Video Prediction from Context and Motion”

JAEHOON CHO, JIYOUNG LEE, CHANGJAE OH, WONIL SONG, AND KWANGHOON SOHN

Mar. 2021

- 2021 The British Machine Vision Conference (BMVC), (submitted)

Patent

“Deep learning-based methods and devices for noise image removal”

JAEHOON CHO AND KWANGHOON SOHN

Mar. 2020

Korea patent, 10-2095444

“Deep self-supervised learning technique and device for road detection.”

JAEHOON CHO AND KWANGHOON SOHN

Mar. 2020

Korea patent, 10-2097869

Technical Report

“DIML/CVL RGB-D Dataset: 2M RGB-D Images of Natural Indoor and Outdoor Scenes”

JAEHOON CHO, YOUNGJUNG KIM, AND DONGBO MIN

Jun. 2018

- Uploaded at : https://jhcho90.github.io/files/technical_report.pdf

Research Experiences

Deep Identification and Tracking of Missing Person in Heterogeneous CCTV

Seoul, S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY

Sep. 2017 – Present

- Development of video prediction for anomaly detection.

Depth Estimation and Image Quality Improvement using Multi-camera / Multi-frame Images

Seoul, S.Korea

FUNDED BY SAMSUNG

Jul. 2019 – Oct. 2020

- Development of AI-inspired High Dynamic Range (HDR) imaging of dynamic scenes.
- Development of tele-wide stereo matching.

Fundamental Study of Vision Algorithms for Comprehensive and Thorough Understanding of Videos

Seoul, S.Korea

FUNDED BY MINISTRY OF SCIENCE, ICT AND FUTURE PLANNING

Sep. 2017 – Present

- Developed an algorithm for understanding untrimmed videos.
- Development of next frame prediction.

Development of SWIR / LWIR Image Fusion algorithm

Seoul, S.Korea

FUNDED BY LIG NEX1

Mar. 2017 – Nov. 2018

- Development of image restoration algorithm for outdoor images degraded by adverse weather.
- Construct a large-scale real-world time-lapse dataset.

Development of the High-Precision AR & VR Contents Based on Smart-Car Sensors

Seoul, S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY

Jan. 2017 – Dec. 2017

- Developed an algorithm for dense stereo matching in outdoor environments.

High Quality 2D-to-Multiview Contents Generation from Large-Scale RGB+D Database

Seoul, S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY (IITP)

Sep. 2016 – Aug. 2017

- Construct a large-scale RGB+D database.
- Developed deep network for inferring high-quality depth from a single 2-D image.
- Developed deep network for stereo confidence measure.
- Developed deep network for road detection and free space algorithm via depth map.

Yonsei University, Dept. of Electrical and Electronic Engineering

Seoul, S.Korea

TEACHING ASSISTANT

Sep. 2018 – Dec. 2018

- Digital image processing, EEE5320.

Experiences

Google Developers Machine Learning Bootcamp 2021

Seoul, S.Korea

GOOGLE DEVELOPERS

Aug. 2021 –

- Take the deep learning specialization course.

Skills

Programming	Python, C/C++, MATLAB, OpenCV, OpenGL, LaTeX, Linux
Deep learning	PyTorch, Tensorflow, Torch, Matconvnet
Languages	English, Korean