

JUNHO KIM

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EDUCATION

KAIST, Daejeon, South Korea

Sep. 2019 - Present

-Ph.D. in Electrical Engineering

-Advisor: Prof. Yong Man Ro

Dongguk University, Seoul, South Korea

Feb. 2012 - Feb. 2019

-B.S. in Electrical and Electronic Engineering

RESEARCH INTERESTS

Machine Learning

- Deep Learning
- Causal Inference
- Segmentation
- Explainable AI
- Adversarial Robustness

PUBLICATION

International Journal

1. Robust Perturbation for Visual Explanation: Cross-Checking Mask Optimization to Avoid Class Distortion
Junho Kim, Seongyeop Kim, Seong Tae Kim, and Yong Man Ro,
IEEE Transactions on Image Processing (**TIP**), 2021, IF: 10.856.

International Conference

1. Mitigating Adversarial Vulnerability through Causal Parameter Estimation by Adversarial Double Machine Learning
Byung-Kwan Lee*, **Junho Kim***, and Yong Man Ro, (*: equally contributed)
IEEE/CVF International Conference on Computer Vision (**ICCV**), 2023.
2. Mitigating Dataset Bias in Image Captioning through CLIP Confounder-free Captioning Network
YeonJu Kim, **Junho Kim**, Byung-Kwan Lee, Sebin Shin, and Yong Man Ro
IEEE International Conference on Image Processing (**ICIP**), 2023.
3. Demystifying Causal Features on Adversarial Examples and Causal Inoculation for Robust Network by Adversarial Instrumental Variable Regression
Junho Kim*, Byung-Kwan Lee*, and Yong Man Ro, (*: equally contributed)
IEEE / CVF Computer Vision and Pattern Recognition Conference (**CVPR**), 2023.
4. Masking Adversarial Damage: Finding Adversarial Saliency for Robust and Sparse Network
Byung-Kwan Lee*, **Junho Kim***, and Yong Man Ro, (*: equally contributed)
IEEE / CVF Computer Vision and Pattern Recognition Conference (**CVPR**), 2022.
5. Distilling Robust and Non-Robust Features in Adversarial Examples by Information Bottleneck
Junho Kim*, Byung-Kwan Lee*, and Yong Man Ro, (*: equally contributed)
Advances in Neural Information Processing Systems (**NeurIPS**), 2021.
6. Interpretation of Lesional Detection via Counterfactual Generation
Junho Kim, Minsu Kim, and Yong Man Ro,
IEEE International Conference on Image Processing (**ICIP**), 2021.

7. Unsupervised Disentangling of Viewpoint and Residues Variations by Substituting Representations for Robust Face Recognition
Minsu Kim, Joanna Hong, **Junho Kim**, Hong Joo Lee, and Yong Man Ro,
International Conference on Pattern Recognition (**ICPR**), 2020.
8. Learning Style Correlation for Elaborate Few-Shot Classification
Junho Kim, Minsu Kim, Jung Uk Kim, Hong Joo Lee, Sangmin Lee, Joanna Hong, and Yong Man Ro,
IEEE International Conference on Image Processing (**ICIP**), 2020.

RESEARCH EXPERIENCE

Research Engineer in Hyundai MOBIS

- Research Engineer
 - Safety Electronic System Group
 - Developing an algorithm of airbags inflation estimating the magnitude and the type collision of an accident
- Jan. 2019 - Aug. 2019*

Research Internship in Samsung Electronics

- Research Intern
 - Image Quality Development Group
 - Developing a super-resolution algorithm for flagship models
- Jun. 2018 - Aug. 2018*

Research Internship in Hyundai MOBIS

- Research Intern
 - Driving Assistant System Group
 - Developing Lane Keeping Aid System (LKAS) algorithm
- Jan. 2018 - Feb. 2018*

REVIEWER ACTIVITIES

International Journal

- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- IEEE Transactions on Audio, Speech, and Language Processing (TASLP)

International Conference

- Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)

PROGRAMMING SKILLS

Languages

- C/C++, Python, and MATLAB

Deep Learning Libraries

- Pytorch, Tensorflow, and Keras

AWARDS & HONORS

KAIST Fellowship

2019 - Present

The World Embedded software Contest

2017

- Finalist with AI six-legged robot 'Homecoming'