Curriculum Vitae

Name : Donggeun Yoo (유동근)

Date of Birth : August 13, 1986

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Educations

2006. 3. – 2011. 1. BS in School of Electrical Engineering, KAIST, Daejeon, South Korea.

2011. 2. – 2013. 2. MS in School of Electrical Engineering, KAIST, Daejeon, South Korea.

Thesis Learning Codeword Characteristics for Image Retrieval Using Very High Dimensional Bag-of-Words Representation

Advisor Prof. In So Kweon

2013. 3. – 2019. 2. Ph.D. in School of Electrical Engineering, KAIST, Daejeon, South Korea.

Thesis Deep Learning Based Visual Recognition Robust Against Background Clutters

Advisor Prof. In So Kweon

Career

2016. 5. – 2016. 8. Research intern at Adobe Research, San Jose, CA, USA.

Topic Large-Scale Video Representation Learning

Advisor Hailin Jin and Joon-Young Lee

2017. 3. – 2018. 2. Co-founder & Research Scientist at Lunit Inc., Seoul, South Korea.

2018. 3. – 2019. 12. Co-founder & Head of Research at Lunit Inc., Seoul, South Korea.

2020. 1. – Present Co-founder & Chief of Research at Lunit Inc., Seoul, South Korea.

Research Interest

Machine Learning Deep learning, unsupervised learning, semi-supervised learning, representation learning, active learning, transfer learning, domain adaptation, large-scale learning method, information retrieval.

Computer Vision Visual recognition, image classification, object detection, semantic segmentation, image retrieval, medical image analysis, data-driven imaging bio-marker (DIB).

Achievements

2009. 2. Grand Prize in KAIST Undergraduate Research Program (URP)

Topic Portable Noncontact Heartbeat Sensor Using LC Oscillation

Advisor Prof. Songcheol Hong

2015. 12. ImageNet Large Scale Visual Recognition Challenge (**ILSVRC**) in ICCV 2015
5th place at the main track (classification and localization) among 23 participants including world-leading companies such as Google, Microsoft Research, Samsung Electronics, and Qualcomm.
Invited to the ILSVRC Workshop to provide a talk about "Multi-Class AttentionNet", which was selected as one of top 3 novel localization approaches.
Team name: Lunit-KAIST

2017. 3. My transfer learning method, Multi-Scale Pyramid Pooling (MPP), was employed to **Samsung Galaxy S8** Bixby Vision for fine-grained object classification and product retrieval.

2019. 11. Visual Domain Adaptation Challenge (VisDA) in ICCV 2019.
1st place in the semi-supervised domain adaptation task.
Method: Reducing Domain Gap via Style-Agnostic Networks
Team name: Lunit

Academic Activities

2015. 12. Invited talk at ICCV 2015 Workshop: ImageNet and MS COCO Visual Recognition Challenges Joint Workshop (ILSVRC)

Topic Multi-class AttentionNet

2019. 4. Invited talk at a medical conference: Korea International Gastric Cancer Week 2019

Topic The Potential of AI in Medicine: From Diagnostic AI to Predictive Biomarker

2019. 10. Invited talk at MICCAI 2019 Workshop: Medical Informatics in Medical Image Analytics (MIMIA'19)

Topic Reducing Annotation Cost in Medical Image Analysis

2019. 10. Organizing an ICCV 2019 Workshop: Visual Recognition for Medical Images (VRMI'19)

Co-organizers Dr. Hoo-Chang Shin (NVIDIA) and Pf. Kyunghyun Cho (NYU&FAIR)

2019. 11. Invited talk at a medical conference: Annual Symposium of the Korea Endocrine Society

Topic The Potential of AI in Medicine: From Diagnostic AI to Predictive Biomarker

2017. – Present Reviewer in CVPR, ICCV, ECCV, and other conferences.

Selected Publications

1. Jaehwan Lee, **Donggeon Yoo**, Jung Yin Huh, Hyo-Eun Kim, *Photometric Transformer Networks and Label Adjustment for Breast Density Prediction*, IEEE International Conference on Computer Vision (ICCV) Workshop, 2019.
2. Inwan Yoo, **Donggeun Yoo**, Kyunghyun Paeng, *PseudoEdgeNet: Nuclei Segmentation only with Point Annotations*, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2019. - **Oral**

3. Seokju Lee, Junsik Kim, Tae-Hyun Oh, Yongseop Jeong, **Donggeun Yoo**, Stephen Lin, In So Kweon, *Visuomotor Understanding for Representation Learning of Driving Scenes*, The British Machine Vision Conference (BMVC), 2019.
4. **Donggeun Yoo**, In So Kweon, *Learning Loss for Active Learning*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019. - **Oral**
5. Jongchan Park, Joon-Young Lee, **Donggeun Yoo**, In So Kweon, *Distort-and-Recover: Color Enhancement using Deep Reinforcement Learning*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018.
6. Dahun Kim, Donghyeon Cho, **Donggeun Yoo**, In So Kweon, *Learning Image Representations by Completing Damaged Jigsaw Puzzles*, IEEE Winter Conference on Applications of Computer Vision (WACV), 2018.
7. Dahun Kim, Donghyeon Cho, **Donggeun Yoo**, In So Kweon *Two-phase learning for weakly supervised object localization* IEEE International Conference on Computer Vision (ICCV), 2017.
8. Youngjin Yoon, Hae-Gon Jeon, **Donggeun Yoo**, Joon-Young Lee, In So Kweon, *Light-field image super-resolution using convolutional neural network*, IEEE Signal Processing Letters, 24(6), 848-852, 2017.
9. **Donggeun Yoo**, Sunggyun Park, Kyunghyun Paeng, Joon-Young Lee, In So Kweon, *Action-Driven Object Detection with Top-Down Visual Attentions*, arXiv preprint, 2016.
10. **Donggeun Yoo**, Namil Kim, Sunggyun Park, Anthony S Paek, In So Kweon, *Pixel-Level Domain Transfer*, European Conference on Computer Vision (ECCV), 2016.
11. **Donggeun Yoo**, Sunggyun Park, Joon-Young Lee, Anthony S Paek, In So Kweon *Attentionnet: Aggregating weak directions for accurate object detection* IEEE International Conference on Computer Vision (ICCV), 2015.
12. Youngjin Yoon, Hae-Gon Jeon, **Donggeun Yoo**, Joon-Young Lee, In So Kweon, *Learning a deep convolutional network for light-field image super-resolution*, IEEE International Conference on Computer Vision (ICCV) Workshop, 2015.
13. **Donggeun Yoo**, Sunggyun Park, Joon-Young Lee, In So Kweon, *Multi-scale pyramid pooling for deep convolutional representation*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Deep Vision Workshop, 2015.
14. **Donggeun Yoo**, Kyunghyun Paeng, Sunggyun Park, Jungin Lee, Seungwook Paek, Sung-Eui Yoon, In So Kweon, *PRISM: a system for weighted multi-color browsing of fashion products*, International Conference on World Wide Web (WWW), 2014.