Hongje Seong

Contact

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The 3rd Eng. building,
Yonsei university,
50 Yonsei-ro,
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Seoul, 120-749, Korea

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Languages

Korean, English

Interests

Computer vision, scene recognition, and video object segmentation

Education

03/18 - Present **Ph.D. student** School of Electrical & Electronic Engineering — Yonsei University
Advisor: Prof. Euntai Kim

03/12 - 02/18 **B.S.** School of Electrical & Electronic Engineering — Yonsei University

Experience

03/21 - Present **Adobe Research** — San Jose, CA, USA (remote)
Research Intern
Mentors: Joon-Young Lee and Seoung Wug Oh

03/18 - Present **Yonsei University** — Seoul, Korea
Research Assistant @ CILAB
Participation in several research projects

03/18 - 12/18 **Yonsei University** — Seoul, Korea
Teaching Assistant
- Data Structure and Algorithms
- Introduction Artificial Intelligence

Publications

Journal

Universal Pooling - A New Pooling Method for Convolutional Neural Networks
Junhyuk Hyun, Hongje Seong, and Euntai Kim
Expert Systems With Applications (*ESWA*), 2021. (Accepted)

Indoor Place Category Recognition for a Cleaning Robot by Fusing a Probabilistic Approach and Deep Learning
Soowook Choe*, Hongje Seong*, and Euntai Kim (*equal contribution)
IEEE Transactions on Cybernetics (*TCYB*), 2021. (Accepted)

FOSNet: An End-to-End Trainable Deep Neural Network for Scene Recognition
Hongje Seong, Junhyuk Hyun and Euntai Kim
IEEE Access, vol. 8, no. 1, pp. 82066-82077, December, 2020.

Conference

Metric Learning in Mini-batch for Robust 6-DoF Camera Relocalization in Outdoor Environments
Gyuhyeon Pak, Hongje Seong, Euntai Kim
International Conference on Ubiquitous Robots (*UR*), June, 2020.

The Effective Method for 3D LiDAR Point Clouds Processing
Youngjoo Kim, Hongje Seong, Wonje Jang, Euntai Kim
International Conference on Ubiquitous Robots (*UR*), June, 2020.

Unsupervised Domain Adaptation for Semantic Segmentation by Content Transfer
Suhyeon Lee, Junhyuk Hyun, Hongje Seong, and Euntai Kim
AAAI Conference on Artificial Intelligence (*AAAI*), February, 2021.

Kernelized Memory Network for Video Object Segmentation
Hongje Seong, Junhyuk Hyun, and Euntai Kim
European Conference on Computer Vision (*ECCV*), August, 2020.

Is Whole Object Information Helpful for Scene Recognition?
Hongje Seong, Junhyuk Hyun, and Euntai Kim
International Conference on Ubiquitous Robots (*UR*), June, 2020.

A Kernel-based Approach for Video Object Segmentation
Hongje Seong, Junhyuk Hyun, and Euntai Kim
The 2020 DAVIS Challenge on Video Object Segmentation (*DAVIS'20, CVPRW*), June, 2020.

Video Multitask Transformer Network
Hongje Seong, Junhyuk Hyun and Euntai Kim
IEEE International Conference on Computer Vision Workshops (*CoVieW'19, ICCVW*), October, 2019.

Partial Convolution for Scene Recognition
Hongje Seong, Junhyuk Hyun, Seongwon Lee and Euntai Kim
International Conference on Control, Automation and Systems (*ICCAS*), October, 2019.

Scene Recognition via Object-to-Scene Class Conversion: End-to-End Training
Hongje Seong, Junhyuk Hyun, Hyunbae Chang, Suhyeon Lee, Suhan Woo and Euntai Kim
International Joint Conference on Neural Networks (*IJCNN*), July, 2019.

Weakly Supervised Temporal Localization in Video Scene Recognition
Junhyuk Hyun, Hongje Seong, Suhyeon Lee, Suhan Woo and Euntai Kim
International Conference on Control, Automation and Systems (*ICCAS*), October, 2018.

New Feature-level Video Classification via Temporal Attention Model
Hongje Seong, Junhyuk Hyun, Suhyeon Lee, Suhan Woo, Hyunbae Chang and Euntai Kim
The 1st Workshop and Challenge on Comprehensive Video Understanding in the Wild (*CoVieW'18, ACM MM Workshop*), October, 2018.

Awards

2020 **3rd Place Award** DAVIS'20 (CVPR Workshop)
The 2020 DAVIS Challenge on Video Object Segmentation (DAVIS 2020)

2019 **Best Poster Award 3rd Place** School of Electrical & Electronic Engineering, Yonsei University
Workshop on Frontiers of Electrical Engineering (FREE) 2019

2018 **2nd Place Award** CoVieW'18 (ACM MM Workshop)
The 1st Workshop and Challenge on Comprehensive Video Understanding in the Wild (CoVieW 2018)

2017 **4th Place Award** Korea Transportation Safety Authority (TS) & Korea Auto-Vehicle Safety Association (KASA)
Autonomous Car Racing in 2017 International Student Car Competition

Patents

Apparatus for predicting traffic line of box-level multiple object using only position information of box-level multiple object
Euntai Kim, Youngjo Lee, Hongje Seong and Junhyuk Hyun
Korea - Application No. 10-2020-0149533

Apparatus for predicting movement of box-level object using only position information of box-level object
Euntai Kim, Youngjo Lee, Hongje Seong and Junhyuk Hyun
Korea - Application No. 10-2020-0149532

Pixel Level Video Object Tracking Apparatus Using Box Level Object Position Information
Euntai Kim, Hongje Seong, Youngjo Lee and Junhyuk Hyun
Korea - Application No. 10-2020-0030214
International (PCT) - Application No. PCT/KR2020/005383

Action Recognition Method and Apparatus in Untrimmed Videos Based on Artificial Neural Network
Euntai Kim, Hongje Seong and Junhyuk Hyun
Korea - Application No. 10-2020-0029743

Apparatus for Recognizing a Place based on Artificial Neural Network and Learning Method thereof
Euntai Kim, Hongje Seong, Junhyuk Hyun, Suhyeon Lee, Suhan Woo and Hyunbae Chang
Korea - Application No. 10-2019-0041544
Korea - Registration No. 10-2211842
International (PCT) - Application No. PCT/KR2020/001018

Apparatus and Method for Detecting Object based on Heterogeneous Sensor
Euntai Kim, Junhyuk Hyun, Suhyeon Lee, Suhan Woo and Hongje Seong
Korea - Application No. 10-2018-0055179
Korea - Registration No. 10-2138681

Method and Apparatus for Generating Scene Situation Information of Video Using Differentiation of Image Feature and Supervised Learning
Euntai Kim, Junhyuk Hyun, Suhyeon Lee, Suhan Woo and Hongje Seong
Korea - Application No. 10-2018-0049520
Korea - Registration No. 10-2120453

Projects

(09/17-12/20) Research on Fundamental Technology for Deep Learning-Based Semantic State Understanding
National Research Foundation of Korea (NRF)

(09/17-05/19) Development of part-based pedestrian detection and tracking system for autonomous vehicle
National Research Foundation of Korea (NRF)

Activities

Reviewer

Elsevier Knowledge-Based Systems
Elsevier Applied Soft Computing

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