

# Jiyoung Lee

PH.D. CANDIDATE · YONSEI UNIVERSITY

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## Summary

**Research Interest** Computer vision, affective computing, machine learning  
**Current Focus** Meta-learning, multimodal learning, video understanding

## Education

### Yonsei University

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

- Working with Prof. Kwanghoon Sohn.

Seoul, S.Korea

Mar. 2016 - Present

### Yonsei University

B.S. IN SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING

Seoul, S.Korea

Mar. 2012 - Feb. 2016

## Experience

### Microsoft Research

RESEARCH INTERN

- HUE: Human Understanding and Empathy Group.
- Working with Dr. Daniel McDuff and Dr. Yale Song.

Redmond, USA

April. 2020 - Present

## Publication

### “SumGraph: Video Summarization via Recursive Graph Modeling”

JUNGIN PARK\*, **JIYOUNG LEE\***, IG-JAE KIM, AND KWANGHOON SOHN (\* INDICATES EQUAL CONTRIBUTION.)

Aug. 2020

- European Conference on Computer Vision (ECCV)

### “Multi-modal Recurrent Attention Networks for Facial Expression Recognition”

**JIYOUNG LEE**, SUNOK KIM, SEUNGRYONG KIM, AND KWANGHOON SOHN

May. 2020

- IEEE Transaction on Image Processing (TIP), (Accept)

### “Video Summarization by Learning Relationships between Action and Scene”

JUNGIN PARK, **JIYOUNG LEE**, SANGRYUL JEON, AND KWANGHOON SOHN

Oct. 2019

- International Conference on Computer Vision Workshop (ICCV Workshop-CoViewW)

### “Context-Aware Emotion Recognition Networks”

**JIYOUNG LEE**, SEUNGRYONG KIM, SUNOK KIM, JUNGIN PARK, AND KWANGHOON SOHN

Oct. 2019

- International Conference on Computer Vision (ICCV)

### “Graph Regularization Network With Semantic Affinity for Weakly-supervised Temporal Action Localization”

JUNGIN PARK, **JIYOUNG LEE**, SANGRYUL JEON, SEUNGRYONG KIM, AND KWANGHOON SOHN

Sep. 2019

- IEEE International Conference on Image Processing (ICIP)

### “Audio-Visual Attention Networks for Emotion Recognition”

**JIYOUNG LEE**, SUNOK KIM, SEUNGRYONG KIM, AND KWANGHOON SOHN

Oct. 2018

- ACM Multimedia Workshop- Workshop on Audio-Visual Scene Understanding for Immersive Multimedia (MMW)

### “Learning to Detect, Associate, and Recognize Human Actions and Surrounding Scenes in Untrimmed Videos”

JUNGIN PARK, SANGRYUL JEON, SEUNGRYONG KIM, **JIYOUNG LEE**, SUNOK KIM, AND KWANGHOON SOHN

Oct. 2018

- ACM Multimedia Workshop- The 1st Workshop and Challenge on Comprehensive Video Understanding in the Wild (MMW)

### “Spatiotemporal Attention Based Deep Neural Networks for Emotion Recognition”

**JIYOUNG LEE**, SUNOK KIM, SEUNGRYONG KIM, AND KWANGHOON SOHN

Apr. 2018

- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)

## “Automatic 2D-to-3D Conversion using Multi-scale Deep Neural Network”

JIYOUNG LEE, HYUNGJOO JUNG, YOUNGJUNG KIM, AND KWANGHOON SOHN

Sep. 2017

- IEEE International Conference on Image Processing (ICIP)

## Patent

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### “Audio-Video Matching Area Detection Apparatus and Method”

JIYOUNG LEE, AND KWANGHOON SOHN

Jul. 2019

- Korea patent, 10-2019-0090937

### “Apparatus and Method for Recognizing Activity and Detecting Activity Area in Video”

JIYOUNG LEE, AND KWANGHOON SOHN

Mar. 2019

- Korea patent, 10-2019-0034501

### “Emotion Recognition Apparatus and Method Based on Spatiotemporal Attention”

JIYOUNG LEE, AND KWANGHOON SOHN

May. 2018

- Korea patent, 10-2018-0053306

## Research Experiences

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### To create AI systems that act appropriately and effectively in novel situations that occur in open worlds

S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY

Mar. 2020 – Present

- Developed an algorithm for domain generalization using meta-learning.

### Deep Identification and Tracking of Missing Person in Heterogeneous CCTV

S.Korea

FUNDED BY MINISTRY OF SCIENCE, NATIONAL RESEARCH FOUNDATION

Sep. 2018 – Present

- Developed an algorithm for pedestrian detection.

### Intelligent Virtual Reality: Deep Audio-Visual Representation Learning for Multimedia Perception and Reproduction

S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY.

Sep. 2017 – Aug. 2019

- Developed an algorithm using audio-visual data.

### Fundamental Study of Vision Algorithms for Comprehensive and Through Understanding of Videos

S.Korea

FUNDED BY MINISTRY OF SCIENCE, ICT AND FUTURE PLANNING.

Sep. 2017 - Present

- Developed an algorithm for scene understanding untrimmed videos.

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

S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY

Jan. 2017 – Dec. 2017

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

### Emotional Intelligence Technology to Infer Human Emotion and Carry on Dialogue Accordingly

S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY.

Sep. 2017 - Jun. 2018

- Developed an algorithm for inferring human emotion from multi-spectral images.

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

S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY.

Mar. 2016 – Aug. 2017

- Developed an algorithm for inferring high-quality depth from a single 2-D image.

### Yonsei University, Dept. of Electrical and Electronic Engineering

S.Korea

TEACHING ASSISTANT.

Mar. 2016 – Feb. 2017

- Digital signal processing, Electrical and electronic engineering experiments: fundamentals.

## Professional Activities

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### Reviewers

IEEE ACCESS

## Media Coverage

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## Honors & Awards

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2019	<b>3rd Award</b> , CoVieW 2019 (ICCV Challenge)	CoVieW'19
2018	<b>Silver Prize</b> , Ulsan KBS UCC Contest	KBS
2016	<b>Finalist &amp; Award</b> , University Startup 300	Ministry of Education, S.Korea
2016	<b>2nd Award</b> , Sungshin Startup 4th Idea Contest	Sungshin University
2015	<b>Silver Prize</b> , Yonsei Creative Design Challenge	Yonsei University
2015	<b>Award</b> , Campus Reboot Startup Camp	Ministry of Education, S.Korea

## Skills

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<b>Programming</b>	Python, C/C++, JAVA, Ruby, Lua, MATLAB, OpenCV, LaTeX, Linux
<b>Deep learning</b>	PyTorch, Tensorflow, Caffe, Torch
<b>Web</b>	Django, Ruby on Rails, HTML5, CSS, Javascript
<b>Languages</b>	Korean, English