JUNYEONG KIM

+82-10-8541-8416 | junyeong.kim@kaist.ac.kr | https://sites.google.com/view/junyeongkim

Post-Doc Researcher, AIM Lab., KAIST
Research Intern, Microsoft Research Asia

RESEARCH INTERESTS

- Deep Learning
- Computer Vision
- Visual Question Answering
- Vision-Language Reasoning

EXPERIENCE

KAIST Daejeon, Republic of Korea
Post-Doc Researcher *Mar.2021 - Present*

MSRA Online
Research Intern *Dec.2020 - Present*

EDUCATION

KAIST Daejeon, Republic of Korea
Ph.D., School of Electrical Engineering *Mar. 2017 - Feb. 2021*
- Thesis: "Deep Learning based Approaches for Multimodal Video Question Answering"
- Advisor: Prof. Chang D. Yoo

KAIST Daejeon, Republic of Korea
M.S., School of Electrical Engineering *Mar. 2015 - Feb. 2017*
- Thesis: "Partial Person Re-identification with Convolutional Neural Network and Attention Model"
- Advisor: Prof. Chang D. Yoo

KAIST Daejeon, Republic of Korea
B.S., School of Electrical Engineering *Mar. 2011 - Feb. 2015*

RESEARCH PROJECTS

Microsoft Research Asia Jun. 2020 - Present
Open-ended Multi-modal Video Question Answering
- Advisor: Prof. Chang D. Yoo
- Researching Open-ended Multi-modal Video Question Answering & Dialogue system, published 1 AAAI paper

Samsung Research Center Jan. 2018 - Dec. 2019
Multi-modal Video Question Answering
- Advisor: Prof. Chang D. Yoo
- Researched Multi-modal Video Question Answering system, published 2 CVPR papers

Samsung Research Center Mar. 2017 - Dec. 2017
Multi-modal Video Categorization
- Advisor: Prof. Chang D. Yoo
- Researched Multi-modal Video Categorization system, published 1 ECCV paper

Samsung Electronics Jun. 2016 - Dec. 2016
Defect Detection in Semiconductor
- Advisor: Prof. Chang D. Yoo
- Researched Defect Detection system on Semiconductor

LG Electronics Jun. 2016 - Dec. 2016
Defect Detection in Circuit Board

- Advisor: Prof. Chang D. Yoo
- Researched Defect Detection system on Circuit board

Samsung DMC Research Center Jun. 2015 - Dec. 2015

Malware Detection in Android OS

- Advisor: Prof. Chang D. Yoo
- Researched Malware Detection system on Android OS

PUBLICATIONS

- **Junyeong Kim**, Sunjae Yoon, Dahyun Kim, Chang D. Yoo, "Structured Co-reference Graph Attention for Video-gounrded Dialogue", *Proceedings of the AAAI Conference on Artificial Intelligence* **(AAAI)**, 2021
- **Junyeong Kim**, Minuk Ma, Pham X. Trung, Kyunsoo Kim, Chang D. Yoo, "Modality Shifting Attention Network for Multi-modal Video Question Answering", *IEEE Conference on Computer Vision and Pattern Recognition* **(CVPR)**, 2020
- Minuk Ma, Sunjae Yoon, **Junyeong Kim**, Youngjoon Lee, Sunghun Kang, Chang D. Yoo, "VLANet: Video-Language Alignment Network for Wealy-Supervised Video Moment Retrieval", *European Conference on Computer Vision* **(ECCV)**, 2020
- **Junyeong Kim**, Minuk Ma, Kyunsoo Kim, Sungjin Kim, Chang D. Yoo, "Progressive Attention Memory Network for Movie Story Question Answering", *IEEE Conference on Computer Vision and Pattern Recognition* **(CVPR)**, 2019
- **Junyeong Kim**, Minuk Ma, Kyunsoo Kim, Sungjin Kim, Chang D. Yoo, "Gaining Extra Supervision via Multi-task Learning for Multi-modal Video Question Answering", *Proceedings of the International joint Conference on Neural Networks* **(IJCNN)**, 2019
- Younghoon Jung, SeongKwang Hong, Heeseung Wang, Jaehyun Han, Trung X. Pham, Hyunsin Park, **Junyeong Kim**, Sunghun Kang, Chang D. Yoo, Keonjae Lee, "Flexible Piezoeletric Acoustic Sensors and Machine Learning for Speech Processing", *Advanced Materials*, Oct 2019.
- Sunghun Kang, **Junyeong Kim**, Hyunsoo Choi, Sungjin Kim, Chang D. Yoo, "Pivot Correlational Neural Network for Multimodal Video Categorization", *European Conference on Computer Vision* **(ECCV)**, 2018
- Ohchul Kwon, **Junyeong Kim**, Chang D. Yoo, "Action Recognition: First-and Second-order 3D Feature in Bi-directional Attention Network", *IEEE International Conference on Image Processing* **(ICIP)**, 2018
- **Junyeong Kim**, Chang D. Yoo, "Deep Partial Person Re-identification via Attention Model", *IEEE International Conference on Image Processing* **(ICIP)**, 2017
- **Junyeong Kim**, Hyoungwoo Park, Chang D. Yoo, "A study on Weighted Softmax", *International Technical Conference on Circuits/Systems, Computers and Communications* **(ITC-CSCC)**, 2017

PROFESSIONAL ACTIVITIES

Challenge

- ILSVRC 2016 Object Detection from Video (VID) in team "KAIST-SLSP" and achieved 5^{th} place.
- MS COCO instance segmentation 2019 in team "DeepAR(ETRIxKAIST_AIM)" and achieved 4^{th} place.

Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) *2020,2021*
- IEEE International Conference on Computer Vision (ICCV) *2019,2021*
- European Conference on Computer Vision (ECCV) *2020*
- Neural Information Processing Systems (NIPS) *2020*
- International Conference on Machine Learning (ICML) *2020,2021*
- International Conference on Learning Representations (ICLR) *2021*
- AAAI Conference on Artificial Intelligence (AAAI) *2020,2021*
- International Conference on Image Processing (ICIP) *2019,2020*
- Asian Conference on Computer Vision (ACCV) *2020*
- Winter Conference on Applications of Computer Vision (WACV) *2021*

Talk

- Invited Paper Presentation at Video Turing Test Workshop, ICCV 2019
- Tutorial on Recurrent Neural Networks at Sungnam-KAIST AI Class 2018, 2019, 2020

- Invited talk at Young Researcher Session, Joint Fall Conference held by KAIA and MSRA, 2020

Teaching

- Tutorial on Visual Question Answering at EE531 Statistical Learning Theory *fall 2018*
- Tutorial on PyTorch at EE488 Introduction to Machine Learning *Spring 2019*
- TA for EE531 Statistical Learning Theory *2017, 2018*
- TA for EE488 Introduction to Machine Learning *2016, 2017, 2018, 2019*
- TA for EE405 Electronics Design Lab. *2015*

Technical Skills

Languages: Python, Matlab
Frameworks: Tensorflow, PyTorch