

# Jae Won Cho

COMPUTER VISION RESEARCHER · ELECTRICAL ENGINEER

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## Education

### Korea Advanced Institute of Science and Technology (KAIST)

PH.D IN ELECTRICAL ENGINEERING

Supervised by Prof. In So Kweon

*Daejeon, South Korea*

*Aug 2018 - Aug 2023*

### Georgia Institute of Technology

B.S. IN ELECTRICAL ENGINEERING

GPA: 3.5/4.0 (High Honor)

*Atlanta, GA, USA*

*Aug 2014 - May 2018*

## Research Interest

My current research interests lie in the general areas of computer vision and deep learning with a particular focus Vision & Language Tasks such as Visual Question Answering and Active Learning.

## Experience

### Sejong University

ASSISTANT PROFESSOR

- Department of Artificial Intelligence and Data Science

*Seoul, South Korea*

*Mar 2024 - present*

### KAIST, Multimodal AI Lab

POSTDOCTORAL RESEARCH ASSOCIATE

- Research on Computer Vision: Multi-modal AI, Video & Language

*Daejeon, South Korea*

*Aug 2023 - Feb 2024*

### KAIST, Robotics and Computer Vision (RCV) Lab

RESEARCH ASSISTANT

- Research on Computer Vision: VQA, Active Learning

*Daejeon, South Korea*

*Aug 2018 - Aug 2023*

## Projects

### Object-centric Scene Understanding for Video Turing Test

KOREA MINISTRY OF SCIENCE AND ICT

Project Member/Lead: Developing a rich object-centric scene understanding framework for Video Turing Test based on Video Question Answering.

*South Korea*

*Aug 2018 - Feb 2022*

### Biometric Door Lock

STANLEY BLACK & DECKER

Project Lead: Tasked with developing a WiFi channel state information based gait recognition for classification.

*Atlanta, GA, USA*

*Oct 2017 - May 2018*

## Publications

- **Jae Won Cho**, Dawit Mureja Argaw, Yeongtaek Oh, Dong-Jin Kim, In So Kweon, "Empirical study on using Adapters for debiased Visual Question Answering." *Computer Vision and Image Understanding (CVIU)*, 2023.
- **Jae Won Cho\***, Dong-Jin Kim\*, Yunjae Jung, In So Kweon, "Counterfactual Mix-Up for Visual Question Answering." *IEEE Access*, 2023. (\* equal contribution)
- **Jae Won Cho**, Dong-Jin Kim, Hyeonggon Ryu, In So Kweon, "Generative Bias for Robust Visual Question Answering." *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023. (28th HumanTech Paper Award, Bronze Prize)
- Youngjoon Jang, Youngtaek Oh, **Jae Won Cho**, Myungchul Kim, Dong-Jin Kim, In So Kweon, Joon Son Chung, "Self-Sufficient Framework for Continuous Sign Language Recognition." *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2023 [Oral] [top 3% recognition of all accepted papers].

- Youngjoon Jang, Youngtaek Oh, **Jae Won Cho**, Dong-Jin Kim, Joon Son Chung, In So Kweon, "Signing Outside the Studio: Benchmarking Background Robustness for Continuous Sign Language Recognition." *British Machine Vision Conference (BMVC)*, 2022.
- **Jae Won Cho\***, Dong-Jin Kim, Yunjae Jung, In So Kweon, "MCDAL: Maximum Classifier Discrepancy for Active Learning." *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, 2022. (\* equal contribution)
- Chaoning Zhang, Philipp Benz, Adil Karjauv, **Jae Won Cho**, Kang Zhang, In So Kweon, "Investigating Top-k White-box and Transferable Black-box Attack." *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
- Dong-Jin Kim\*, **Jae Won Cho\***, Jinsoo Choi, Yunjae Jung, In So Kweon, "Single-Modal Entropy based Active Learning for Visual Question Answering." *British Machine Vision Conference (BMVC)*, 2021. (\* equal contribution)
- Inkyu Shin, Dong-Jin Kim, **Jae Won Cho**, Sanghyun Woo, Kwanyong Park, In So Kweon, "LabOR: Labeling Only if Required for Domain Adaptive Semantic Segmentation." *IEEE International Conference on Computer Vision (ICCV)*, 2021 [**Oral**](acceptance rate 3%).
- Antyanta Bangunharcana, **Jae Won Cho**, Seokju Lee, In So Kweon, Kyung-Soo Kim, Soohyun Kim, "Correlate-and-Excite: Real-Time Stereo Matching via Guided Cost Volume Excitation." *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.
- **Jae Won Cho**, Dong-Jin Kim, Jinsoo Choi, Yunjae Jung, In So Kweon, "Dealing with Missing Modalities in the Visual Question Answer-Difference Prediction Task through Knowledge Distillation." *CVPR Multimodal Learning and Applications Workshop (CVPRW)*, 2021
- Dawit Mureja Argaw, Junsik Kim, Francois Rameau, **Jae Won Cho**, In So Kweon. "Optical Flow Estimation from a Single Motion-blurred Image." *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)*, 2021.

## Honors & Awards

2023	<b>NICE Challenge, 2nd Place</b> , NICE Workshop at CVPR 2023 (\$5,000 USD)	<i>Vancouver, Canada</i>
2022	<b>28th HumanTech Paper Award, Bronze Prize</b> , Samsung Electronics Co. Ltd (\$5,000)	<i>South Korea</i>
2018-Present	<b>KAIST Scholarship</b> , Full Scholarship for Ph.D Program	<i>KAIST, South Korea</i>
2018	<b>Eta Kappa Nu (HKN), Beta Mu Chapter</b> , Lifetime Membership	<i>Atlanta, GA, USA</i>
2018	<b>High Honor</b> , Georgia Institute of Technology Electrical Engineering	<i>Atlanta, GA, USA</i>
2017	<b>Georgia Tech Faculty Honors</b> , Perfect GPA Honors (Spring 2017)	<i>Atlanta, GA, USA</i>
2014, 2015, 2017	<b>Georgia Tech Dean's List</b> , (Fall 2017, Spring 2015, Fall 2014)	<i>Atlanta, GA, USA</i>
2017-2018	<b>Scholarship of In-State- Tuition Waiver (\$10,000 USD)</b> , Awarded based on GPA and need	<i>Atlanta, GA, USA</i>

## Skills

<b>Programming Languages:</b>	Python, Matlab, C, $\LaTeX$ , VHDL
<b>Deep Learning</b>	PyTorch, Caffe, TensorFlow, C3D
<b>Languages</b>	English (Native), Korean (Fluent), Chinese (Basic)
<b>Miscellaneous</b>	Autodesk Inventor, Solidworks, Microsoft Office, PSpice, LTspice, Matchcad, Multisim, ORCAD, Allegro.

## References

### Prof. In So Kweon

SCHOOL OF ELECTRICAL ENGINEERING, KAIST  
Email: iskweon77@kaist.ac.kr

### Prof. Joon Son Chung

SCHOOL OF ELECTRICAL ENGINEERING, KAIST  
Email: joonsc@kaist.ac.kr

### Prof. Dong-Jin Kim

DEPARTMENT OF DATA SCIENCE, HANYANG UNIVERSITY  
Email: djdkim@hanyang.ac.kr