Jae Won Cho

COMPUTER VISION RESEARCHER · ELECTRICAL ENGINEER

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Education

Korea Advanced Institute for Science and Technology (KAIST)   *Daejeon, South Korea*
PH.D IN ELECTRICAL ENGINEERING   *Aug 2018 - Aug 2023*
Supervised by Prof. In So Kweon

Georgia Institute of Technology   *Atlanta, GA, USA*
B.S. IN ELECTRICAL ENGINEERING   *Aug 2014 - May 2018*
GPA: 3.5/4.0 (High Honor)

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

KAIST, Multimodal AI Lab   *Daejeon, South Korea*
POSTDOCTORAL RESEARCH ASSOCIATE   *Aug 2023 - present*
• Research on Computer Vision: Multi-modal AI, Video & Language

KAIST, Robotics and Computer Vision (RCV) Lab   *Daejeon, South Korea*
RESEARCH ASSISTANT   *Aug 2018 - Aug 2023*
• Research on Computer Vision: VQA, Active Learning

Projects

Object-centric Scene Understanding for Video Turing Test   *South Korea*
KOREA MINISTRY OF SCIENCE AND ICT   *Aug 2018 - Present*
Project Member/Lead: Developing a rich object-centric scene understanding framework for Video Turing Test based on Video Question Answering.

Biometric Door Lock   *Atlanta, GA, USA*
STANLEY BLACK & DECKER   *Oct 2017 - May 2018*
Project Lead: Tasked with developing a WiFi channel state information based gait recognition for classification.

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

Skills

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

References

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Prof. Joon Son Chung
School of Electrical Engineering, KAIST
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Prof. Dong-Jin Kim
Department of Data Science, Hanyang University
Email: djdkim@hanyang.ac.kr