

Gi-Cheon Kang

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Education	Seoul National University Ph.D. Student in Artificial Intelligence <i>Advisor:</i> Prof. Byoung-Tak Zhang	Seoul, Korea Sept. 2020 – Present
	Seoul National University M.S. in Cognitive Science <i>Advisor:</i> Prof. Byoung-Tak Zhang <i>Thesis:</i> Deep Representation Learning for Visually-Grounded Dialogue	Seoul, Korea Mar. 2018 – Feb. 2020
	Ajou University B.Eng. in Software and Computer Engineering	Suwon, Korea Mar. 2011 – Feb. 2018
Interests	Machine Learning, Natural Language Processing, Computer Vision, Robotics My focus is connecting language with perception and action, enabling machines to understand the semantics of the physical world. Specific topics include: <ul style="list-style-type: none">• Robots performing the desired task through language interaction [11, 12, 9]• Visually-grounded dialog agents [10, 8, 7, 5]• Other topics like robustness and image generation [3, 2, 6]	
Research Experience	SNU-NAVER Hyperscale AI Center Student Researcher <i>With Dr. Jin-Hwa Kim and Sungdong Kim</i> Studied a semi-supervised learning approach for visual dialog, Generative Self-Training, which generates synthetic visual dialog data and trains a model on the data. Published at CVPR 2023.	Seoul, Korea Sept. 2021 – May 2022
	Seoul National University (SNU) Research Assistant <i>With Prof. Byoung-Tak Zhang</i> I have studied “grounded language learning”, which aims to connect language to non-linguistic experiences in the physical world, such as sensory perception and action. Recent research focuses on developing embodied dialog agents that can see, talk, and act.	Seoul, Korea Sept. 2020 – Present
	SK Telecom AI Center Research Intern <i>With Dr. Jin-Hwa Kim and Dr. Hwaran Lee</i> Developed Sparse Graph Learning (SGL) algorithm that discovers inherently sparse semantic structures of the human conversation. Published at Findings of EMNLP 2021.	Seoul, Korea Jan. 2020 - March. 2020
Honors & Awards	Daeha Scholarship Ranked 3rd Place, Visual Dialog Challenge @ CVPR 2019 Software-Centered University Hackathon, Prize from Microsoft Korea Yeoju Honor Scholarship	May 2022 June 2019 Sept. 2017 May 2016

- Preprints**
- [12] **PGA: Learning Personal Objects with Single Human-Robot Interaction**
Junghyun Kim, Gi-Cheon Kang*, Jaein Kim*, Seoyoon Yang, Minjoon Jung, Byoung-Tak Zhang
arXiv preprint 2310.12547, 2023
 - [11] **PROGrasp: Pragmatic Human-Robot Communication for Object Grasping**
Gi-Cheon Kang, Junghyun Kim, Jaein Kim, Byoung-Tak Zhang
arXiv preprint 2309.07759, 2023
- Conference Publications**
- [10] **The Dialog Must Go On: Improving Visual Dialog via Generative Self-Training**
Gi-Cheon Kang, Sungdong Kim*, Jin-Hwa Kim*, Donghyun Kwak*, Byoung-Tak Zhang
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023
 - [9] **GVCCI: Lifelong Learning of Visual Grounding for Language-Guided Robotic Manipulation**
Junghyun Kim, Gi-Cheon Kang*, Jaein Kim*, Suyeon Shin, Byoung-Tak Zhang
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023
Oral Presentation
 - [8] **Reasoning Visual Dialog with Sparse Graph Learning and Knowledge Transfer**
Gi-Cheon Kang, Junseok Park, Hwaran Lee, Byoung-Tak Zhang*, Jin-Hwa Kim*
Findings of Empirical Methods in Natural Language Processing (EMNLP Findings), 2021
 - [7] **Attend What You Need: Motion-Appearance Synergistic Networks for Video Question Answering**
Ahjeong Seo, Gi-Cheon Kang, Joonhan Park, Byoung-Tak Zhang
Annual Meeting of the Association for Computational Linguistics (ACL), 2021
 - [6] **Label Propagation Adaptive Resonance Theory for Semi-Supervised Continuous Learning**
Taehyeong Kim, Injune Hwang, Gi-Cheon Kang, Won-Seok Choi, Hyunseo Kim, Byoung-Tak Zhang
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2020
 - [5] **Dual Attention Networks for Visual Reference Resolution in Visual Dialog**
Gi-Cheon Kang, Jaeseo Lim, Byoung-Tak Zhang
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2019
- Workshop Papers**
- [4] **Generative Self-training Improves Pre-training for Visual Dialog**
Gi-Cheon Kang, Sungdong Kim*, Jin-Hwa Kim*, Donghyun Kwak*, Byoung-Tak Zhang
ICML Workshop on Pre-training: Perspectives, Pitfalls, and Paths Forward (ICMLW), 2022
 - [3] **Improving Robustness to Texture Bias via Shape-focused Augmentation**
Sangjun Lee, Inwoo Hwang, Gi-Cheon Kang, Byoung-Tak Zhang
CVPR Workshop on Human-centered Intelligent Services: Safety and Trustworthy (CVPRW), 2022
 - [2] **C³: Contrastive Learning for Cross-domain Correspondence in Few-shot Image Generation**
Hyukgi Lee, Gi-Cheon Kang, Chang-Hoon Jeong, Hanwool Sul, Byoung-Tak Zhang
NeurIPS Workshop on Controllable Generative Modeling in Language and Vision (NeurIPSW), 2021
 - [1] **Contextualized Bilinear Attention Networks**
Gi-Cheon Kang, Seonil Son, Byoung-Tak Zhang
ECCV Workshop on VizWiz Grand Challenge (ECCVW), 2018

Invited Talks	<i>The Dialog Must Go On: Improving Visual Dialog via Generative Self-Training</i>	
	IEEE RO-MAN Workshop on Learning by Asking for Intelligent Robots and Agents	Aug. 2023
	<i>Reasoning Visual Dialog with Sparse Graph Learning and Knowledge Transfer</i>	
	KSC 2021 - Top-tier Conference Paper Presentation Session	Dec. 2021
	Annual Conference on Human and Cognitive Language Technology	Oct. 2021
	<i>Dual Attention Networks for Visual Reference Resolution in Visual Dialog</i>	
	ICCV 2019 - Video Turing Test Workshop (Spotlight)	Nov. 2019
	SK Telecom AI Center	Sept. 2019
Professional Activities	Reviewing	
	(ML) International Conference on Learning Representations (ICLR)	2024
	(ML) Neural Information Processing Systems (NeurIPS)	2023
	(NLP) Annual Meeting of the Association for Computational Linguistics (ACL)	2023
	(NLP) Empirical Methods in Natural Language Processing (EMNLP)	2022 – 2023
Extra Curricular Activities	BI Lab Conference Deadline Site Administrator	2018 – Present
	Military Service in Republic of Korea Army	2012 – 2014