

# Gi-Cheon Kang

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<b>Contact Information</b>	205, Building 942 Seoul National University 1, Gwanak-ro, Gwanak-gu, Seoul 08826, Republic of Korea	<i>email:</i> chonkang@snu.ac.kr <i>website:</i> gicheonkang.com
<b>Education</b>	<b>Seoul National University</b> Ph.D. Student in Artificial Intelligence <i>Advisor:</i> Prof. Byoung-Tak Zhang	Seoul, Korea Sept. 2020 – Feb. 2025 (expected)
	<b>Seoul National University</b> 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
	<b>Ajou University</b> B.Eng. in Software and Computer Engineering	Suwon, Korea Mar. 2011 – Feb. 2018
<b>Interests</b>	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"><li>• <b>Embodied AI:</b> Robots performing real-world tasks through language interaction [11, 12, 9]</li><li>• <b>Multimodal AI:</b> Vision-language models (VLMs) that can continuously communicate with humans about images [10, 8, 5] and videos [7]</li><li>• Other topics like robustness and image generation [3, 2, 6]</li></ul>	
<b>Research Experience</b>	<b>SNU-NAVER Hyperscale AI Center</b> Student Researcher <i>With Dr. Jin-Hwa Kim, Sungdong Kim, and Donghyun Kwak</i> Studied a semi-supervised learning approach for visual dialog. Published at CVPR 2023.	Seoul, Korea Sept. 2021 – May 2022
	<b>Seoul National University (SNU)</b> Research Assistant <i>With Prof. Byoung-Tak Zhang</i> I have studied machine learning algorithms that connect natural language to perception and action. Developed interactive robots, grasping desired objects through dialog with users (ICRA 2024 Oral) – and a lifelong learning framework for robots to adapt to real-world environments without human supervision (IROS 2023 Oral).	Seoul, Korea Sept. 2020 – Present
	<b>SK T-Brain</b> Research Intern <i>With Dr. Jin-Hwa Kim and Dr. Hwaran Lee</i> Worked on discovering sparse structures in visual dialog. Published at Findings of EMNLP 2021.	Seoul, Korea Jan. 2020 - March. 2020
<b>Honors &amp; Awards</b>	Daeha Scholarship Ranked 3rd Place, Visual Dialog Challenge @ CVPR 2019 Software-Centered University Hackathon, Prize from Microsoft Korea Yeosu 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  
*IEEE/RSJ International Conference on Intelligent Robots and Systems*, (IROS, Submitted), 2024
- Conference Publications** [11] **PROGrasp: Pragmatic Human-Robot Communication for Object Grasping**  
Gi-Cheon Kang, Junghyun Kim, Jaein Kim, Byoung-Tak Zhang  
*IEEE International Conference on Robotics and Automation (ICRA)*, 2024 **(Oral)**
- [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)**
- [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] **C<sup>3</sup>: 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

<b>Invited Talks</b>	<i>The Evolution of Language Models: From Basic NLP to ChatGPT and Beyond</i> Dept. of Energy Resources Engineering, Seoul National University	Nov. 2023
	<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 Annual Conference on Human and Cognitive Language Technology	Dec. 2021 Oct. 2021
	<i>Dual Attention Networks for Visual Reference Resolution in Visual Dialog</i> ICCV 2019 - Video Turing Test Workshop ( <b>Spotlight</b> ) SK Telecom AI Center	Nov. 2019 Sept. 2019
<b>Professional Activities</b>	<b>Reviewing</b>	
	(ML) International Conference on Machine Learning (ICML)	2024
	(ML) International Conference on Learning Representations (ICLR)	2024
	(ML) Neural Information Processing Systems (NeurIPS)	2023
	(NLP) ACL Rolling Review (ARR)	2024
	(NLP) Annual Meeting of the Association for Computational Linguistics (ACL)	2023 – 2024
	(NLP) Empirical Methods in Natural Language Processing (EMNLP)	2022 – 2023
	(Workshop) ICLR Workshop on Reliable and Responsible Foundation Models	2024
(Workshop) ICML Workshop on Pre-training: Perspectives, Pitfalls, and Paths Forward	2022	
<b>Extra Curricular Activities</b>	BI Lab Conference Deadline Site Administrator	2018 – Present
	Military Service in Republic of Korea Army	2012 – 2014