Gi-Cheon Kang

CONTACT INFORMATION	205, Building 942 Seoul National University 1, Gwanak-ro, Gwanak-gu, Seoul 08826, Republic of Korea	*email*: chonkang@snu.ac.kr *website*: gicheonkang.com

EDUCATION

Seoul National University, Seoul, Korea — Sept. 2020 – Present
Ph.D. Student in Artificial Intelligence
Advisor: Prof. Byoung-Tak Zhang

Seoul National University, Seoul, Korea — Mar. 2018 – Feb. 2020
M.S. in Cognitive Science
Advisor: Prof. Byoung-Tak Zhang
Thesis: Deep Representation Learning for Visually-Grounded Dialogue

Ajou University, Suwon, Korea — Mar. 2011 – Feb. 2018
B.Eng. in Software and Computer Engineering

INTERESTS

Machine Learning, Natural Language Processing, Computer Vision, Robotics
Mostly, I am focusing on modeling algorithms that learn the physical world with natural language
The long-term goal of my research is to build machines that can

- perceive their everyday surroundings through vision or other senses,
- communicate with humans via grounded natural language,
- make reliable decisions using language, vision, etc.

RESEARCH EXPERIENCE

SNU-NAVER Hyperscale AI Center, Seoul, Korea — Sept. 2021 – May 2022
Student Researcher
With Dr. Jin-Hwa Kim and Sungdong Kim
Studied a semi-supervised learning algorithm for visual dialog, called Generative Self-Training, which generates synthetic visual dialog data and trains a dialog agent on the data. Published at CVPR 2023.

Seoul National University (SNU), Seoul, Korea — Sept. 2020 – Present
Research Assistant
With Prof. Byoung-Tak Zhang
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.

SK Telecom AI Center, Seoul, Korea — Jan. 2020 - March. 2020
Research Intern
With Dr. Jin-Hwa Kim and Dr. Hwaran Lee
Developed Sparse Graph Learning (SGL) algorithm that discovers inherently sparse semantic structures of the human conversation. Published at Findings of EMNLP 2021.

HONORS & AWARDS

Daeha Scholarship	May 2022
Ranked 3rd Place, Visual Dialog Challenge @ CVPR 2019	June 2019
Software-Centered University Hackathon, Prize from Microsoft Korea	Sept. 2017
Yeoju Honor Scholarship	May 2016

PREPRINTS [11] **PROGrasp: Pragmatic Human-Robot Communication for Object Grasping**
Gi-Cheon Kang, Junghyun Kim, Jaein Kim, and Byoung-Tak Zhang
arXiv preprint 2309.07759, 2023

CONFERENCE [10] **The Dialog Must Go On: Improving Visual Dialog via Generative Self-Training**
PUBLICATIONS Gi-Cheon Kang, Sungdong Kim*, Jin-Hwa Kim*, Donghyun Kwak*, and 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, and Byoung-Tak Zhang
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023

[8] **Reasoning Visual Dialog with Sparse Graph Learning and Knowledge Transfer**
Gi-Cheon Kang, Junseok Park, Hwaran Lee, Byoung-Tak Zhang*, and 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, and 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, and Byoung-Tak Zhang
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2019

WORKSHOP [4] **Generative Self-training Improves Pre-training for Visual Dialog**
PAPERS Gi-Cheon Kang, Sungdong Kim*, Jin-Hwa Kim*, Donghyun Kwak*, and Byoung-Tak Zhang
ICML Workshop on Pre-training: Perspectives, Pitfalls, and Paths Forward (ICML-W), 2022

[3] **Improving Robustness to Texture Bias via Shape-focused Augmentation**
Sangjun Lee, Inwoo Hwang, Gi-Cheon Kang, and Byoung-Tak Zhang
CVPR Workshop on Human-centered Intelligent Services: Safety and Trustworthy (CVPR-W), 2022

[2] C^3**: Contrastive Learning for Cross-domain Correspondence in Few-shot Image Generation**
Hyukgi Lee, Gi-Cheon Kang, Chang-Hoon Jeong, Hanwool Sul, and Byoung-Tak Zhang
NeurIPS Workshop on Controllable Generative Modeling in Language and Vision (NeurIPS-W), 2021

[1] **Contextualized Bilinear Attention Networks**
Gi-Cheon Kang, Seonil Son, and Byoung-Tak Zhang
ECCV Workshop on VizWiz Grand Challenge (ECCV-W), 2018

INVITED *The Dialog Must Go On: Improving Visual Dialog via Generative Self-Training*
TALKS IEEE RO-MAN Workshop on Learning by Asking for Intelligent Robots and Agents   Aug. 2023

Reasoning Visual Dialog with Sparse Graph Learning and Knowledge Transfer
KSC 2021 - Top-tier Conference Paper Presentation Session   Dec. 2021
Annual Conference on Human and Cognitive Language Technology   Oct. 2021

Dual Attention Networks for Visual Reference Resolution in Visual Dialog
      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