

# JUNGHYUN KIM

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## INTERESTS

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My research focuses on enabling intelligent agents to comprehend human language by **grounding linguistic concepts in perception and action**. Ultimately, I aim to empower **generalist robots** with the capability to understand and interact with the real world under minimal human supervision.

## EDUCATION

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**Seoul National University** Seoul, Korea  
Integrated Ph.D. in Graduate School of Artificial Intelligence, Advised by B.T.Zhang. 2021–Current

- GPA: 4.27/4.3
- Main Courses: DL, ML, AI, Pattern Recognition, RL, LLM, Cognitive Science, Neuroscience, Data Science
- Research Paper Competition: Honorable Mention (2024)

**Yonsei University** Seoul, Korea  
B.S. in Electrical and Electronic Engineering 2016–2021

- GPA: 4.13/4.5
- Main Courses: AI, Programming (C, Python, Matlab), Control Engineering, Mathematics, Probability, Data Structure and Algorithms, Signals, Circuits, OS, Communication Theory, Wireless and Mobile Networks
- Yonsei Evison Award (2016), 1 highest honor(2020), 1 high honor(2020), 4 honors(2016, 2017, 2019)

## EXPERIENCE

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**Samsung AI EXPERT Program** Jun 2023  
AI Teaching Assistant (ML and Programming)

**SurroMind** Aug-Dec 2022  
Large-scale Visual Reasoning Project

**POSCO DX AI Youth Challenge** 2022 - Current  
AI Mentor

**Samsung AI Research Center, Samsung Advanced Institute of Technology (SAIT)** Jun 2022  
SEM Depth Prediction via Auto Encoder

**CS, Seoul National University** Mar-Aug 2022  
Teaching Assistant (Artificial Intelligence)

**Robotics and Mobile Networks Lab, EEE, Yonsei University** Summer 2019  
Laboratory Internship advised by Prof. Seoung-Lyun Kim  
– Solving Convex Optimization using Neural Networks

**QUEBON AI Mathematics** Summer 2018  
Company Internship

## PUBLICATIONS

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### INTERNATIONAL CONFERENCE

- [7] **Towards Video Large Language Models for View-Invariant Understanding**  
M. Jung, J. Xiao, **J. Kim**, I. J. Kwon, B. T. Zhang, A. Yao  
*Neural Information Processing Systems (NeurIPS 2025)* (Under Review)
- [6] **CLIP-RT: Learning Language-Conditioned Robotic Policies from Natural Language Supervision**  
G. C. Kang\*, **J. Kim\***, K. Shim, J. K. Lee, B. T. Zhang  
*Robotics: Science and Systems (RSS 2025)*  
*3rd Workshop on Language and Robot Learning @ The Conference on Robot Learning (CoRL 2024)*
- [5] **Exploring Video Large Language Models for Synchronized Ego-Exo Video Understanding**  
M. Jung, J. Xiao, **J. Kim**, B. T. Zhang, A. Yao  
*IEEE / CVF Computer Vision and Pattern Recognition Conference, VidLLMs (CVPR-W 2025)*
- [4] **Socratic Planner: Inquiry-Based Zero-Shot Planning for Embodied Instruction Following**  
S. Shin, S. Jeon\*, **J. Kim\***, G. C. Kang\*, B. T. Zhang.  
*IEEE International Conference on Robotics and Automation (ICRA 2025)*
- [3] **PGA: Personalizing Grasping Agents with Single Human-Robot Interaction**  
**J. Kim**, G. C. Kang\*, J. Kim\*, S. Yang, M. Jung, B. T. Zhang.  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2024)*
- [2] **PROGrasp: Pragmatic Human-Robot Communication for Object Grasping**  
G. C. Kang, **J. Kim**, J. Kim, B. T. Zhang.  
*IEEE International Conference on Robotics and Automation (ICRA 2024)*
- [1] **GVCCI: Lifelong Learning of Visual Grounding for Language-Guided Robotic Manipulation**  
**J. Kim**, G. C. Kang\*, J. Kim\*, S. Shin, B. T. Zhang.  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2023)*  
**Oral Presentation**

### DOMESTIC JOURNAL

- [1] **Tackling Entity Size-Based Bias in Visual Grounding**  
**J. Kim**, G. C. Kang, H. Sul, B. T. Zhang.  
*KIISE Transactions on Computing Practices (KTCP 2023)*

### DOMESTIC CONFERENCE

- [10] **Scaling Language-Conditioned Policies with Fast and Lightweight Architectures**  
**J. Kim**, B. T. Zhang.  
*Korean Institute of Information Scientists and Engineers (KCC 2025)*
- [9] **Generalizing Language-Conditioned Robotic Policies via Large Language Models**  
**J. Kim**, B. T. Zhang.  
*Korean Institute of Information Scientists and Engineers (KCC 2025)*
- [8] **Stochastic Trajectory Diversification for Language-Conditioned Robotic Policy Learning**

**J. Kim**, G. C. Kang, K. Shim, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KSC 2024, Best Paper Award)*

[7] **Data Collection Method for Robotic Action Learning through Natural Language Commands**

**J. Kim**, G. C. Kang, K. Shim, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KSC 2024)*

[6] **Personalizing Large Language Models via Interest Trait Summarization**

**J. Kim**, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KSC 2023)*

[5] **Unsupervised Adaptation for Zero-shot Visual Grounding via Pseudo Query Generation**

**J. Kim**, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KCC 2023)*

[4] **Referring Expression Segmentation on Small Objects**

**J. Kim**, G. C. Kang, H. Sul, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KSC 2022, Best Paper Award)*

[3] **Attention-based Text Augmentation Method for Referring Expression Segmentation**

**J. Kim**, G. C. Kang, H. Sul, B. T. Zhang.

*Korean Institute of Information Scientists and Engineers (KCC 2022)*

[2] **Adaptive Spatial Comprehension via Object Relationship Learning with Home Robot**

**J. Kim**, S. Lee, Y. Yoo, B. T. Zhang

*Korean Institute of Information Scientists and Engineers (KSC 2021)*

[1] **Prediction of Professional Golfer's Score by using Data Mining**

**J. Kim**

*Korean Institute of Information Scientists and Engineers (KCC 2015)*

## THESIS

[1] **Large-Scale Tiny Face Detection using Multi-Task Cascaded Convolutional Neural Networks**

*Bachelor's Thesis, Yonsei University, 2020*

## PATENTS

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- (PCT, KR) Method for Generating Artificial Intelligence Model Using Natural Language Instruction, (PCT, KR) Method and Apparatus for Driving Robot Using Said Artificial Intelligence Model
- (PCT, KR) Method and Apparatus for Generating Natural Language Instruction Based on Visual Recognition
- (PCT, KR) Method And Apparatus For Creating An Artificial Intelligence Model That Recognizes Personalized Objects, And Robot Control Method And System Using The Same

## PROFESSIONAL ACTIVITIES

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- (Reviewing) IEEE Robotics and Automation Letters (RA-L) 2024
- (Reviewing) IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2024

## INVITED TALKS

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- AI SEOUL 2024, Seoul, Korea Feb 2024
- AI Retreat, IPAI, SNU Nov 2023
- KOREA AI SUMMIT (spotlight session) Nov 2023
- IEEE RO-MAN Workshop on Learning by Asking for Intelligent Robots and Agents Aug 2023
- AI Symposium, AIGS, Korea Aug 2023

## SKILLS

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- **Programming:** Python, C, Matlab, Verilog
- **Robots:** UR5, Kinova Gen3, TurtleBot4, Pepper, (ALOHA), (RB-Y1)

## LANGUAGES

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- **Korean:** Native
- **English:** Fluent (New TEPS: 483)

## EXTRACURRICULAR ACTIVITIES

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- Professional Golf Caddie 2021-2022  
*Professional Golf Tour in Asia & Korea Professional Golfers' Association (KPGA) Korean Golf Tour*
- Seoul Junior Athletics Championships 2014  
*2<sup>nd</sup> place in Seoul, Korea*
- Korea Junior Golf Association 2011-2013  
*Junior Golfer*