JUNGHYUN KIM

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INTERESTS

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

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

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

SurroMind
Large-scale Visual Reasoning Project   Aug-Dec 2022

POSCO DX AI Youth Challenge
AI Mentor   2022 - Current

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

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

Robotics and Mobile Networks Lab, EEE, Yonsei University
Laboratory Internship advised by Prof. Seoung-Lyun Kim   Summer 2019

- Solving Convex Optimization using Neural Networks

QUEBON AI Mathematics
Company Internship   Summer 2018

PUBLICATIONS

INTERNATIONAL CONFERENCE

[5] **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)

[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

[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 MTCNN**
Bachelor's Thesis, Yonsei University, 2020

PATENTS

- (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

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

INVITED TALKS

- 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

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

LANGUAGES

- **Korean:** Native

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

Extracurricular Activities

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