Jisang Park

jisangpark.com

INTERESTS

Multimodal Human-Robot Interaction, Large Multimodal Models (LMMs), Task Planning

EDUCATION

Seoul National University (SNU) — Seoul, Republic of Korea

B.S. in Computer Science and Engineering & B.B.A. (Business Administration) — Aug 2022

- Summa Cum Laude (GPA: 3.9/4.0)
- Three-year full-ride scholarship from Bang-Il Young Foundation (highest GPA in the department)

RESEARCH EXPERIENCE

Korea Advanced Institute of Science and Technology (KAIST) — Daejeon, Republic of Korea

Robust Intelligence & Robotics Lab | Advisor: Prof. Daehyung Park — 2024–Present

- Achieved open-set semantic state estimation with 122% higher accuracy compared to closed-set baselines by developing a prompting method that grounds LMMs in affordances and temporal context
- Delivered 5 successful language-guided navigation demonstrations by implementing a real-time voice command framework through the integration of NVIDIA Riva ASR engine with ROS and RViz plugin
- Contributed to the publication of a survey featuring over 100 papers on the integration of large language models (LLMs) into robotics by proposing the taxonomy and writing the communication section

Independent Research — Remote

Collaborator: Dr. Jongha Lee (Research Scientist at Axoft Inc., Massachusetts) — 2023–Present

- Improved second-language (L2) pronunciation accuracy by 20% with only 10 minutes of training by developing an algorithm that approximates L2 phonemes with composite sounds of native phonemes
- Deployed a publicly accessible web service for pronunciation training through the development of a system that integrates the algorithm with FastAPI backend and React-based grapheme visualization

Seoul National University — Seoul, Republic of Korea

Human Factors Psychology Lab | Advisor: Prof. Sowon Hahn — 2021

- Improved emotion recognition accuracy by up to 10% through augmentation of the MELD dataset with facial expression data and implementation of a multimodal model with a fusion of bcLSTM and VGG16
- Shaped collection guidelines for OPLEA dataset of 2.3K dialogue by analyzing the correlation between dialogue patterns and participant ratings and identifying reciprocity as a key engagement factor

PUBLICATIONS

[1] **J. Park**, M. Kim, D. Hong, J. Lee. "Inter-linguistic Phonetic Composition (IPC): A Theoretical and Computational Approach to Enhance Second Language Pronunciation," *arXiv preprint*, 2024. (under review in NAACL 2025)

[2] Y. Kim, D. Kim, J. Choi, **J. Park**, N. Oh, D. Park. "A survey on integration of large language models with intelligent robots," *Intelligent Service Robotics*, vol. 17, no. 5, pp. 1091–1107, 2024. (Co-authors listed alphabetically)

[3] Y. Lee, W. Cho, S. Bae, H. Choi, **J. Park**, N. Kim, S. Hahn. ""Feels like I've known you forever": empathy and self-awareness in human open-domain dialogs," in *Proceedings of the 44th Annual Conference of the Cognitive Science Society*, 2022.

RESEARCH IN PROGRESS

[1] **J. Park**, G. Eo, D. Park. "Affordance and Scene Graph Prompting for Open-Set Semantic State Estimation with Large Multimodal Models," *To be submitted to IEEE Robotics and Automation Letters (RA-L).*

HONORS AND AWARDS

Government Startup Funding Recipient ($45,000) | Republic of Korea Government — 2022

Startup Incubation Program Selection (Top 3) | SNU Center for Entrepreneurship & Innovation — 2021

Startup Competition Creativity Award (Top 5%) | Republic of Korea Army — 2020

Division Commander's Letter of Commendation (Sole recipient) | Republic of Korea Army — 2019

Enactus World Cup Semi-Finalist (among 36 competing countries) | Enactus — 2017

ENTREPRENEURIAL EXPERIENCE

GreatZipsa Inc. — Seoul, Republic of Korea
Co-Founder & CEO | Fintech Startup for Short-Term Rentals — 2022–2023

- Maximized return on investment to 23.3% by developing a rent optimization model encompassing both regression analysis of willingness-to-pay and sensitivity analysis of market factors
- Achieved a 99.7% annual occupancy rate by optimizing rental periods and timing through a time series analysis of 30K+ crawled online community posts for supply and demand estimation
- Selected for $45,000 government funding by Fintech Center Korea (top 10% among over 200 applicants) through an investment pitch highlighting technological innovation and social impact

Modoom — Seoul, Republic of Korea
Co-Founder | Social Media Startup for Online Social Gathering — 2020–2021

- Acquired 1,000+ SNU student users organically and hosted 100+ gatherings within 2 weeks of launch by refining service based on 60+ user interviews and funnel analysis using Google Analytics and SQL
- Attracted 250+ students and achieved a 90% attendee satisfaction rate by hosting the SNU Online Christmas Party on a platform developed in 3 days by integrating Django with the Zoom API
- Hosted 2021 online freshmen orientations by establishing a partnership with the SNU Student Council
- Selected as one of 3 teams for SNU's startup incubation program by demonstrating product-market fit

Enactus Seoul National University — Seoul, Republic of Korea
Project Founder | Social Venture for Psychotherapy Services by Blind Counselors — 2017–2018

- Laid the foundation for a mental healthcare service that served 850+ customers and secured $105,000 in funding by developing affordable and accessible psychotherapy for depressed and lonely individuals
- Empowered 6 blind individuals with sustainable income and professional skills by recruiting, training, and employing them as counselors with a tailored curriculum co-developed with a psychotherapist
- Led Team Korea to the semi-finals in the Enactus World Cup among 36 competing countries as a presenter, highlighting the social impact of our projects to over 200 international attendees

WORK EXPERIENCE

Boston Consulting Group — Seoul, Republic of Korea
Research Analyst — 2022

- Validated commercial viability of new battery technology by conducting a correlation analysis between technical specifications and sales based on data collected for 300+ electric vehicle models
- Formulated an electric vehicle battery market entry strategy through quantitative analysis of government subsidies and manufacturer investment plans for supply-demand projections

Republic of Korea Army (ROKA) — North Chungcheong, Republic of Korea
Sergeant & Security Specialist — 2019–2020

- Awarded the Creativity Award at the ROKA Startup Competition for developing a dynamic password system using multi-factor authentication and PBKDF2 to enhance security and convenience (Top 5%)
- Reduced soldier workload by 60% and received a Letter of Commendation from the Division Commander for spearheading the surveillance system restructuring by leading stakeholders to consensus

TEACHING EXPERIENCE

Basic & Core Computing
Undergraduate Tutor — Fall 2021

- Selected as one of few undergraduate tutors for 2 computing courses based on academic excellence
- Instructed 30 students in weekly lectures on Python programming and computer science fundamentals

SKILLS

Languages: Korean (Native), English (Fluent) | IBT TOEFL: 110/120 (R: 30, L: 29, S: 26, W: 25)
Programming: Python, C++, JavaScript, ROS, React, Django, FastAPI, SQL, AWS
Robot Platforms: Mobile Manipulator (Stretch 2), Robotic Arm (UR5e), Quadruped Robot (Spot)