

Kyochul Jang

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Research Interests: Physical Agentic AI, Action Generation



Education

Seoul National University

Ph.D. in Artificial Intelligence (CGPA: 4.01 / 4.30)

- SNU PI Lab; Advisor: Prof. Youngjae Yu.

Expected Spring 2029

Seoul, Korea

Purdue University

Bachelor of Science in Computer Science (CGPA: 3.71 / 4.00)

December 2023

West Lafayette, Indiana

Selected Research and Projects

HumanoidToolBench | Humanoid Tool Use, Unitree G1

2026

- As first author, defined the research problem, designed and conducted experiments, and analyzed results for humanoid tool selection, manipulation, and mobile execution. [Project]
- The collaborative project includes 18 tasks and ToolBook, a dataset of 3.1k demonstrations collected in simulation and on a real Unitree G1.

Mobile GUI Agent Development | On-device AI

05/2025 – 11/2025

- Converted AndroidControl into Android-Control-84k and used it to fine-tune Qwen2.5-VL-72B, developing an on-device mobile GUI model that directly navigates smartphone screens.

DICE-BENCH | LLM Tool Use, ACL 2025 Findings

2025

- First-author research on evaluating LLM function calling in multi-round, multi-party dialogues, with DICE-SCORE measuring how tool-related information is dispersed across a conversation.
- The benchmark comprises 1,607 dialogue instances generated using tool-dependency graphs and multi-agent simulation, with experiments on 19 LLMs. [Paper] [Project]

Peer-reviewed Publications

- Lee, N., Yoon, D., Son, G., Kim, G., Ko, D., Park, J., Yoo, H., Cho, J., Park, J., Lee, C., **Jang, K.**, Kim, J., Kim, E., Cho, W., Kim, S. (2026). K-BrowseComp: A Web Browsing Agent Benchmark Grounded in Korean Contexts. *EMNLP 2026 Findings*. [Paper]
- Lee, H., Jeong, J., Lee, H., **Jang, K.**, Yu, Y., Lee, W. (2026). SafeBranch: Branch-Pair Safety Alignment for Embodied Agents. *EMNLP 2026 Findings*. [Paper]
- Kim, Y., **Jang, K.**, Song, H., Shin, M., Suh, B. (2026). CodeVoyager: Integrating Interactive Visual Aids with LLMs for Code Comprehension. *IUI 2026*. [Paper]
- Song, H., Shin, M., Choi, J., Kim, Y., **Jang, K.**, Suh, B., Jung, H. (2026). Translating Blind and Low-Vision Users' Feedback into Domain-Specific Criteria for AI-Generated Alt Text: Evidence from E-Commerce. *ASSETS 2026*. [Paper]
- Lee, J., **Jang, K.**, Sparkling, A. E., Kang, K. (2026). Large Language Model-based Construction Site Management for Severe Weather Preparedness. *Journal of Construction Engineering and Management*. [Paper]
- Kim, Y., **Jang, K.**, Song, H., Shin, M., Suh, B. (2025). CodeVoyager: An Interactive Tool for Rapid Code Comprehension through LLM-Assisted Graph Navigation. *UIST 2025 Adjunct Proceedings (Poster)*. [Paper]
- Jang, K.**, Lee, D., Kim, K., Heo, D., Lee, T., Kim, W., Suh, B. (2025). DICE-BENCH: Evaluating the Tool-Use Capabilities of Large Language Models in Multi-Round, Multi-Party Dialogues. *ACL 2025 Findings*. [Project]

- viii) Song, H., Shin, M., Kim, Y., **Jang, K.**, Choi, J., Jung, H., Suh, B. (2025). AltAuthor: A Context-Aware Alt Text Authoring Tool with Image Classification and LMM-Powered Accessibility Compliance. *IUI 2025 Posters and Demos*. [Paper]
- ix) Lee, T., Yoon, C., **Jang, K.**, Lee, D., Song, M., Kim, H., Kang, J. (2025). ETHIC: Evaluating Large Language Models on Long-Context Tasks with High Information Coverage. *NAACL 2025*. [Paper]
- x) Kim, H., Kim, C., Lee, H., **Jang, K.**, Lee, J., Lee, K., Kim, G., Kang, J. (2024). KU-DMIS at EHRSQL 2024: Generating SQL query via question templatzation in EHR. *ClinicalNLP 2024 Workshop*. [Paper]
- xi) Oh, D., Kang, K., Seo, S., Xiao, J., **Jang, K.**, Kim, K., Park, H., Won, J. (2023). Low-Cost Object Detection Models for Traffic Control Devices through Domain Adaption of Geographical Regions. *Remote Sensing*. [Paper]

Preprints and Manuscripts

- i) **Jang, K.**, Park, S., Kwon, O., Park, S., Choi, J., Yi, S., Kim, C., Lee, S., Szpektor, I., Caciularu, A., Park, J., Yu, Y. (2026). HumanoidToolBench: Benchmarking Humanoid Tool Use from Selection to Mobile Execution. *arXiv preprint arXiv:2610.02089*. [Paper] [Project]
- ii) **Jang, K.**, Park, J., Ahn, J., Singh, A., Son, G., Lee, H., Yu, Y. PhoneJacking. *Manuscript in preparation; planned submission to ARR, January 2027*.

Work Experience

SK Telecom <i>SKT AI Fellow</i>	05/2025 – 11/2025 <i>Hybrid</i>
<ul style="list-style-type: none"> Developed on-device mobile GUI agents that execute user instructions through smartphone interfaces. Project details are confidential. 	
Naver Boostcamp / Samsung SSAFY <i>AI Tech Teaching Assistant – Generation for NLP</i>	07/2024 – 01/2026 <i>Remote</i>
<ul style="list-style-type: none"> Developed and reviewed lectures, assignments, and guides for the NLP track; designed course objectives and evaluation criteria. Managed leaderboard-based competitions on stages.ai, including datasets, evaluation metrics, and tutorials; organized student sessions and seminars. 	
Seoul National University, Computer Science and Engineering <i>Graduate Teaching Assistant</i>	05/2025 – Present <i>Seoul, Korea</i>
<ul style="list-style-type: none"> Serve as a teaching assistant for Data Structures and Algorithms, co-developing lab materials and homework assignments. Support hands-on practice and assignment development for Artificial Intelligence Seminar and Computer Programming. Coordinate invited-speaker sessions and seminar logistics. 	
Samsung Electronics DX <i>Software Engineering Intern, Mobile Experience</i>	06/2023 – 08/2023 <i>Suwon, Korea</i>
<ul style="list-style-type: none"> Developed automation tools for Galaxy devices, using Geekbench and power and voltage measurements to identify workload phases on mobile application processors. 	
Purdue University, Computer Science <i>Undergraduate Teaching Assistant – CS 17700</i>	08/2022 – 12/2023 <i>West Lafayette, Indiana</i>
<ul style="list-style-type: none"> Created Python assignments, taught lab sessions, and supported supervision and grading with the graduate teaching assistant. 	

Projects

Purdue Korean Association Website	08/2023 – 05/2024
<ul style="list-style-type: none"> Rebuilt the association website with Next.js and Nest.js, contributing frontend, backend, and Figma interface designs. [Website] 	
Personal Website	08/2022 – Present
<ul style="list-style-type: none"> Built and maintain a personal research website with React, TypeScript, Tailwind CSS, and Netlify. [Website] 	

Awards and Honors

SKT AI Fellow Scholarship	06/2025 – 11/2025
Grand Prize (2nd Place), AI Demo Competition	06/2025
1st Prize (LG Almers / LG AI Hackathon)	01/2024 – 04/2024
Dean's List	08/2021 – 12/2023
Semester Honors	01/2021 – 12/2023

Patents

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- LG Management Development Institute. **Jang, K.**, Choi, J., Jang, K., Choi, S., Hong, Y. (2025). Predictive System, Control Method thereof, and Learning Method of Predictive System. Korean Patent Application No. 10-2024-0109936. Publication No. 10-2024-0176815. <https://doi.org/10.8080/1020240176815>

Invited Talks

LLM basic to applications (feat. GUI Agent) <i>Naver Boostcamp</i> <ul style="list-style-type: none">• Host: Naver Boostcamp	01/2026
Code Understanding Tool using React-Flow: Code Voyager <i>SNU AI Graduate School</i> <ul style="list-style-type: none">• Host: SNU GSAI	06/2025
LLM Function Calling and Agent <i>Naver Boostcamp</i> <ul style="list-style-type: none">• Host: Naver Boostcamp	11/2024

Leadership Experience

Purdue Korean Association (PKA) <i>Recruiting Team Leader</i> <ul style="list-style-type: none">• Led a team of 10 members, the largest in the association, and secured \$7,000 in funding for club operations from companies such as Samsung Electronics, LG, and SK Innovation.	08/2021 – 08/2023 <i>West Lafayette, Indiana</i>
Republic of Korea Army <i>Squad Leader</i> <ul style="list-style-type: none">• Served as a squad leader of a radio operation squad in the military at Seoul Capital Defense Command.• Worked as a translator of Chinese, English, and Korean at Army Headquarters.	08/2018 – 03/2020 <i>Seoul, Korea</i>

Languages & Certifications

Languages: Korean (Native), English (Full Professional Proficiency), Chinese (Full Professional Proficiency)
Certifications: HSK Level 6 (Highest level in the six-level system), Craftsman Information Processing