Changkwon Lee 이창권

Ph.D. student, Department of Computer Science and Engineering, Korea University · Intelligence and Informatics (INI) Lab

eckdrnjs@korea.ac.kr · eckdrnjs@gmail.com · Google Scholar · ORCID 0009-0001-4716-3654 · LinkedIn · GitHub

RESEARCH INTERESTS

Computer Science Education · AI Convergence Education · Causal Artificial Intelligence · Causal Representation Learning

EDUCATION

2024.09 – Present	**Ph.D. in Computer Science**, Korea University (Advisor: Prof. Hyeoncheol Kim)
2022.09 – 2024.08	**M.A. in AI Convergence Education**, Seoul National University (Advisor: Prof. Yongnam Kim)
2013.03 – 2019.02	**B.A. in Computer Science Education**, Korea University

PUBLICATIONS

- Woojin Kim, **Changkwon Lee**, Hyeoncheol Kim. (2025). KTCF: Actionable Recourse in Knowledge Tracing via Counterfactual Explanations for Education. *Proceedings of the AAAI Conference on Artificial Intelligence, 40*. (Oral Presentation) https://doi.org/10.1609/aaai.v40i45.41216
- Woojin Kim, **Changkwon Lee**, Hyeoncheol Kim. (2025). A Generative AI Attribution Framework for Computing Courses in Higher Education. *The Journal of Korean Association of Computer Education*.
- Chung, K., Kim, S., Lee, J., **Lee, C.**, Noh, H., Kwon, Y., & Kim, H. (2025). Development and Validation of an AI Literacy Diagnostic Tool for Middle School Students. *International Journal of Human–Computer Interaction*, 1–23. https://doi.org/10.1080/10447318.2025.2595309
- **Changkwon Lee**, Yongnam Kim. (2025). Analyzing the Conceptual Ambiguity of 'AI Convergence Education' for Elementary and Secondary Education in Korea. *Journal of the Korean Association of Computer Education, 28*(10), 31–42.
- **Changkwon Lee**, Haeun Noh, Minjung Kim. (2024). A Development Study of an AI Convergence Instructional Model based on the Creative Problem Solving (CPS) Model for Problem Formulation Competency. *The Journal of Creativity Education, 24*(2), 17–43.
- **Changkwon Lee**, Jaechoon Jo, Hyeoncheol Kim. (2019). A Study on Gender Difference of SW Recognition by Middle School Students. *Journal of the Korean Association of Computer Education, 22*(1), 11–20.

PATENT

- 반사실적 설명 기반 지식 추적 장치 및 방법 (Counterfactual-Explanation-based Knowledge Tracing Apparatus and Method Enabling Classroom Application through Actionable Recourse). Korean patent application No. 10-2026-0061663, filed 2026-04-06.

EXPERIENCE

2024 – 2026 **Research Assistant & Teaching Assistant**, Korea University (Prof. Hyeoncheol Kim)
Teaching assistant (Fall 2024 – Spring 2026):

- Fall 2024: 인공지능특론 (Advanced Topics in AI, ECM521)
- Spring 2025: 인공지능 (Artificial Intelligence, COSE361)
- Fall 2025: 기계학습 (Machine Learning, COSE362)
- Fall 2025: 인공지능과 윤리 (AI and Ethics, AICE301)
- Spring 2026: 인공지능 (Artificial Intelligence, COSE361)
- Spring 2026: 인공지능이론 (AI Theory, IGC503)

Research assistant (Spring 2025 – Spring 2026).

2020.03 – Present **High School Teacher**, Junghwa High School (Seoul Metropolitan Office of Education) — Informatics and Basics of AI. On academic leave since 2024; returning in 2027.

2022 – 2024 **AI and EdTech Lead Teacher**, Seoul Metropolitan Office of Education (2022, 2023, 2024)

2023 **Master Teacher for AIEDAP**, Ministry of Education (Korea)

2022.08 – 2024.02 **Lead Teacher for Creative Education**, Korea Foundation for the Advancement of Science and Creativity

2021.12 – 2023.02 **Evaluation Committee Member & Instructor**, 중등 영재교육원 (Gifted Education Institute for Secondary School Students), Northern Office of Education, Seoul

AUTHORED MATERIALS

2022 – 2024 Co-author, 데이터 과학 (Data Science), high school textbook (Chunjae Education)

2022 Author, 교원을 위한 인공지능 첫걸음 (A First Step into AI for Teachers), Seoul Metropolitan Office of Education

— Author, Generative AI Guidelines for Classes, INI Lab (Prof. Hyeoncheol Kim)

TEACHING

2022 – 2024 Junghwa High School: Informatics, Basics of Artificial Intelligence (2024: Spring only)

2020 – 2021 Junghwa High School: Informatics