

# Hyeongdon (Doni) Moon

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## RESEARCH INTERESTS

- LLM application in education
- Cognitive architecture and learning representations
- Symbolic reasoning

## EDUCATION

**Carnegie Mellon University**, Pittsburg, US Aug 2025 – Current  
Ph.D. in Human-computer Interaction Institute  
(Advisor: John Stamper and Carolyn Rosé)

**EPFL**, Lausanne, Switzerland Sep 2023 – Jul 2025  
M.S. in Computer Science (Coursework Completed)

**Korea University**, Seoul, Korea Mar 2017 – Feb 2023  
B.S. in Computer Science and Engineering

## WORK EXPERIENCE

**Vimosoft** Anyang, Korea Jul 2024 – Aug 2024  
*Internship, Back-end Engineer*

- Building data analysis dashboard

**Riuid** Seoul, Korea Oct 2020 – Jun 2023  
*Research Scientist*

- AI-powered TOEIC tutor planning & develop
- Educational NLP & multimodal content research

**Riuid** Seoul, Korea Jul 2020 – Oct 2020  
*AIOps Back-end Engineer*

- AI inference server development

## SCHOLARSHIPS

- Science-talented application scholarship (Bachelor Full Funding) at Korea University 2017-2022
- Creative Challenger Program (Research project financial aid) at Korea University 2018-2019

## SKILLS

- Programming Language  
Research: Numpy, Tensorflow, Torch, Pandas  
Back-end: Django, Node js, SQL, Kafka  
MLops: Google Cloud Service, Amazon Web Service, Docker, BentoML, Streamlit, mlflow, Airflow  
Etc : Game & Graphic Work Development(Unity, Flash, Py-game), Robot & IoT(Arduino, Javascript), React

## PUBLICATIONS

- [1] **Cognitive Agent Compilation for Explicit Problem Solver Modeling**  
**Hyeongdon Moon**, Carolyn Rosé and John Stamper  
*Forthcoming, AIED 2026 bluesky, 2026*
- [2] **Using Large Multimodal Models to Extract Knowledge Components for Knowledge Tracing from Multimedia Question Information**  
**Hyeongdon Moon**, Richard Davis, Seyed Parsa Neshaei, and Pierre Dillenbourg  
*EDM 2025 - Proceedings of the 18th International Conference on Educational Data Mining*
- [3] **Evaluating the Knowledge Dependency of Questions**  
{**Hyeongdon Moon**, Yoonseok Yang}\* , Jamin Shin, Hangyeol Yu, Seunghyun Lee, Myeongho Jeong, Juneyoung park, Minsam Kim, and Seungtaek Choi (\* co-first authors)  
*EMNLP 2022 - Conference on Empirical Methods in Natural Language Processing*

- [4] **Dialogue Summaries as Dialogue States (DS2), Template-Guided Summarization for Few-shot Dialogue State Tracking**  
 {Jamin Shin, Hangeol Yu, **Hyeongdon Moon**}\*, Andrea Madotto, and Juneyoung Park (\* co-first authors)  
**Findings of ACL - Annual Meeting of the Association for Computational Linguistics, 2022**
- [5] **Addressing Negative Transfer in Diffusion Models**  
 Hyojun Go\*, Jinyoung Kim\*, Yunsung Lee\*, Seunghyun Lee, Shinhyeok Oh, **Hyeongdon Moon** and Seungtaek Choi  
**NeurIPS 2023 - Thirty-seventh Annual Conference on Neural Information Processing Systems**
- [6] **Evaluation of Question Generation Needs More References**  
 Shinhyeok Oh\*, Hyojun Go\*, **Hyeongdon Moon**, Yunsung Lee, Myeongho Jeong, Hyun Seung Lee and Seungtaek Choi  
**Findings of ACL - Annual Meeting of the Association for Computational Linguistics 2023**
- [7] **Cross Encoding As Augmentation: Towards Effective Educational Text Classification**  
 Hyun Seung Lee, Myeongho Jeong, Yunsung Lee, Shinhyeok Oh, **Hyeongdon Moon**, Hyojun Go, Seungtaek Choi and Christian Wallraven  
**Findings of ACL - Annual Meeting of the Association for Computational Linguistics 2023**
- [8] **Computational cognitive model based on working memory and Global Workspace Theory**  
**Hyeongdon Moon**  
*APEC Youth Scientist Journal, 2016*
- [9] **Towards Zero-Shot Functional Compositionality of Language Models**  
 Hangeol Yu\*, Myeongho Jeong\*, Jamin Shin, **Hyeongdon Moon**, Juneyoung park and Seungtaek Choi  
*arxiv, 2023*

**OTHER EXPERIENCES**

- Journal Reviewer - ACM Transactions on Intelligent Systems and Technology** 2023
- Conference Reviewer - ACL ARR 2024 June, December, 2025 February, October, CHI 2026, EAAI-26** 2024 - 2025
- EPFL Spacecraft Team**, Lausanne, Switzerland Sep 2023 – Jun 2024  
 On Board Computer Systems Engineer
- Gunmyungwon - School on humanities, science, and art**, Seoul, Korea Mar 2021 – Sep 2023  
*Gunmyungwon(建明苑), 7th Cohort (2021)* - Selective one-year humanities program. Completed weekly philosophy and debate seminars and attended lectures by leading scholars across disciplines.  
*Gunmyung Sahak(建明思學), 1st, 2nd Cohorts(2022, 2023)* - Follow-up book discussion program for Gunmyungwon graduates, involving recurring seminars and in-depth group discussions.
- NewLearn - KU Student Neuroscience Association**, Seoul, Korea Mar 2018 – Jan 2020  
 Annual studies in Behavioral economics, Memory, Consciousness