Cheongwoong Kang

Ph.D. Candidate @ KAIST

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Research Interests: Machine Learning, Interpretability, Explainable AI, Natural Language Processing

EDUCATION

KAIST   Mar 2021 − Present
Ph.D. in Artificial Intelligence
Area: Natural Language Processing
Advisor: Jaesik Choi

UNIST   Mar 2019 − Feb 2021
M.S. in Computer Science

Handong Global University   Mar 2015 − Feb 2019
B.S. in Computer Science

PUBLICATIONS AND PREPRINTS

[9] **Cheongwoong Kang**, Jongeun Baek, Yeonjea Kim and Jaesik Choi. "When Format Changes Meaning: Investigating Semantic Inconsistency of Large Language Models". *Findings of EMNLP*. 2025.

[8] Anh Tong, Thanh Nguyen-Tang, Dongeun Lee, Duc Nguyen, Toan Tran, David Leo Wright Hall, **Cheongwoong Kang** and Jaesik Choi. "Neural ODE Transformers: Analyzing Internal Dynamics and Adaptive Fine-tuning". *ICLR*. 2025.

[7] **Cheongwoong Kang**, Wonjoon Chang and Jaesik Choi. "Balanced Domain Randomization for Safe Reinforcement Learning". *Applied Sciences*. 2024.

[6] **Cheongwoong Kang** and Jaesik Choi. "Impact of Co-occurrence on Factual Knowledge of Large Language Models". *Findings of EMNLP*. 2023.

[5] Sunjae Kwon, **Cheongwoong Kang**, Jiyeon Han and Jaesik Choi. "Why Do Neural Language Models Still Need Commonsense Knowledge to Handle Semantic Variations in Question Answering?". *Preprint*. 2022.

[4] Bumjin Park, **Cheongwoong Kang** and Jaesik Choi. "Cooperative Multi-Robot Task Allocation with Reinforcement Learning". *Applied Sciences*. 2021.

[3] **Cheongwoong Kang**, Bumjin Park and Jaesik Choi. "Scheduling PID Attitude and Position Control Frequencies for Time-Optimal Quadrotor Waypoint Tracking under Unknown External Disturbances". *Sensors*. 2021.

[2] Sunjae Kwon, **Cheongwoong Kang**, Jiyeon Han and Jaesik Choi. "Why Do Masked Neural Language Models Still Need Common Sense Knowledge?". *Reasoning for Complex QA Workshop @ AAAI*. 2020.

[1] **Cheongwoong Kang**, Youngheon Ro, Jisu Kim and Heeyoul Choi. "Symbolizing Numbers to Improve Neural Machine Translation". *Journal of Digital Contents Society*. 2018.

PROJECTS

AI-Based Weather Forecasting Support Technology Development
National Institute of Meteorological Sciences (NIMS)   *Apr 2025 − Present*

- Developing vertical AI agents to enhance meteorologists' decision-making.

Unmanned Swarm Cyber-Physical System
Agency for Defense Development (ADD)   *Jan 2021 − Mar 2025*

- Developed multi-robot task allocation and adaptive control for grounded and aerial vehicles under real-world disturbances, advancing autonomous swarm intelligence.

Machine Reading Comprehension with Knowledge Bases

Korea Electronics Technology Institute (KETI)   *Mar 2019 – Dec 2020*

- Developed a knowledge probing framework to analyze the influence of training data statistics on language models' factual knowledge.
- Implemented knowledge injection techniques to integrate external knowledge from knowledge bases into language models.

Tutorials

- "Explaining Generative LLMs: Prompting-based Explanations," KAIST XAI Tutorial Series, 2024
- "Attention as Explanation," KAIST XAI Tutorial Series, 2023

Teaching

- Teaching Assistant: Deep Learning (Spring 2023, Fall 2021)
- Teaching Assistant: Interpretability and Interactivity in AI (Spring 2022)
- Teaching Assistant: AI-based Time Series Analysis (Spring 2021)

Honors and Awards

- 2nd Place, ETRI Artificial Intelligence Open API Use Case Excellence Award, 2020
- 2nd Place, Connect6 AI Tournament in Handong Global University, 2018
- 3rd Place in Campus, ACM-ICPC Seoul Regional Preliminary Contest, 2018
- 3rd Place in Campus, ACM-ICPC Daejeon Regional Preliminary Contest, 2017

References

- **Prof. Jaesik Choi** (Graduate School of Artificial Intelligence, KAIST)
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