Dongwon Jung

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Education

University of California Davis June 2029
Ph.D in Computer Science

University of Southern California May 2024
Master of Computer Science GPA: 4.0/4.0

Sungkyunkwan University Aug 2022
Bachelor of Computer Science and Engineering GPA: 3.7/4.0

Experience

Amazon AWS Jun 2025 – Sep 2025
Applied Scientist Intern New York, NY

- Developed a novel framework that optimizes test-time computation in multi-agent systems under budget constraints.
- Proposed a planning algorithm that enables agents to collaborate effectively while allocating resources adaptively.
- Achieved up to 12% higher accuracy and significantly improved budget efficiency across multi-agent benchmarks.

Wrtn Technologies May 2023 – Aug 2023
Machine Learning Engineer Seoul, South Korea

- Built **LLM**-powered planner agent which plan and execute external plugin services corresponding to user's ask.
- Designed and implemented quantitative evaluation metrics to measure performance of **GPT**-powered planner agent.
- Constructed **data augmentation** flywheel that boosts the performance of the planner agent up to **13%** accuracy.

Sungkyunkwan University Dec 2020 – Aug 2022
Undergraduate Research Intern Suwon, South Korea

- Devised a knowledge-based recommendation model using **Pytorch** to alleviate cold start problem in the real world.
- Performed 100+ **data preprocessing** on raw user feedback data to convert them into a standard format for performance evaluation and produced significant performance gains compared to other models–improving nDCG by up to **11.3%**.
- Published a conference paper in Korean Institute of Intelligent Systems and won the Undergraduate Thesis Award.

Publications

- **Dongwon Jung**, Peng Shi, Yi Zhang, **AGENT*: Optimizing Test-Time Compute for Multi-Agent Systems with Modularized Collaboration**. Preprint.
- Wenjie Jacky Mo, Qin Liu, Xiaofei Wen, **Dongwon Jung**, Hadi Askari, Wenxuan Zhou, Zhe Zhao, Muhao Chen, **RedCoder: Automated Multi-Turn Red Teaming for Code LLMs**. Preprint.
- **Dongwon Jung**, Wenxuan Zhou, Muhao Chen, **Code Execution as Grounded Supervision for LLM Reasoning**. EMNLP, 2025.
- **Dongwon Jung**, Qin Liu, Tenghao Huang, Ben Zhou, Muhao Chen, **Familiarity-aware Evidence Compression for Retrieval Augmented Generation**. EMNLP - Findings, 2025.
- Tenghao Huang, **Dongwon Jung**, Muhao Chen, **Planning and Editing What You Retrieve for Enhanced Tool Learning**. NAACL - Findings, 2024.

Projects

Knowledge Graph Prompting using Procedural Reasoning | *Team Project* | *Github Link* Aug 2023 – Nov 2023

- Implemented zero-shot retrieval augmented generation framework to solve complex knowledge graph based questions.
- Proved the effectiveness of procedural reasoning by demonstrating **8.1%** improvement over the baseline model.

Adaptation of Multi-modal Models to Uni-modal Tasks | *Team Project* | *Github Link* Jan 2023 – Apr 2023

- Investigated whether multi-modal models can be adapted to perform better on image classification than vision models.
- Developed 7+ adaptation methods to adapt vision-language models to handle tasks with missing text inputs.

Awards/Scholarships

Awards: Undergraduate Thesis Award (2022), Ministry of Science and ICT Award (2020), President of Korea Intelligent IoT Association Award (2020)
Scholarships: Undergraduate Full Scholarship (2016 – 2022), SKKU Dean's List (2017, 2021)