Nicole Hee-Yeon Kim

nicolekim@kaist.ac.kr | Department of Industrial & Systems Engineering, KAIST | Personal Page
Nationality: United States of America and Republic of Korea (Dual Citizenship)

Research Interest

Multimodal Large Language Models (LLMs); Vision–Language Models (VLMs); Image & Video Understanding; Human–AI Interaction; Multimodal Processing

Education

- **Korea Advanced Institute of Science and Technology** *Feb 2024 - Present*
  Master's Program, Department of Industrial & Systems Engineering, Overall GPA: 3.85/4.0 Daejeon, South Korea
- **Yonsei University** *Mar 2019 - Feb 2024*
  Bachelor's Program, Department of Industrial Engineering, Overall GPA: 3.70/4.0 Seoul, South Korea

Research Experience

- **DISL Lab, Department of Industrial & Systems Engineering, KAIST** *Feb 2024 - Present*
  Master's Student Daejeon, South Korea
  - Led the research project "Robust Dataset Condensation using Supervised Contrastive Learning" as the sole first author (accepted at ICCV 2025).
  - Currently leading the research project "Qualcomm Industry–Academia Collaboration Project" titled "How to Represent and What to Retrieve: Adaptive Planning for Agentic Personal Assistants".
  - Participating in research project "Development of VLM-based PDF Document Understanding and Automated Road Alignment Coordinate Extraction Technology", supported by ETRI.
  - Participated in research project "Beyond the Turing Test: Human-Level Game-Playing Agents with Generalization and Adaptation".
  - Participated in research project "Enhancing AI Model Reliability Through Domain-Specific Automated Value Alignment Assessment".
  - Participated in research project "Naver Cloud Consortium: Omni Foundation Model Project", supported by the Ministry of Science and ICT, NIPA, NIA, and IITP.
- **MLAI Lab, Department of Applied Statistics, Yonsei University** *Sep 2023 - Feb 2024*
  Undergraduate Research Intern Seoul, South Korea
  - Designed and constructed the PlayingCard-10 dataset, a core component of "IMC: A Benchmark for Invariant Learning under Multiple Causes" (CVPR 2025 Workshop Best Paper Award).

Publications

- **Kim, N.** and Song, H. (2025). Robust Dataset Condensation using Supervised Contrastive Learning. In *Proceedings of International Conference on Computer Vision (ICCV 2025)*, Accepted.
- **Kim, N.**, Choi, J., Lee, Y., Song, H. (2025). Robust Dataset Condensation via Semi-Supervised Learning. In *Proceedings of the Korea Computer Congress (KCC 2025)*, Selected for Oral Presentation.
- **Kim, N.**, Lee, Y., Song, H. (2024). Robust Dataset Condensation via Supervised Contrastive Learning. In *Proceedings of the Korea Software Congress (KSC 2024)*, Selected for Oral Presentation.
- Lee, Y., Deng, J., **Kim, N.**, Min, H., Yun, T., Ban, M., Song, H. (2025). Towards a Holistic and Automated Evaluation Framework for Multi-Level Comprehension of LLMs in Book-Length Contexts. In *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP 2025)*, Accepted (Main).
- Min, H., Lee, Y., Ban, M., Deng, J., **Kim, N.**, Yun, T., Su, H., Cai, J., Song, H. (2025). Towards Multi-dimensional Evaluation of LLM Summarization across Domains and Languages. In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL 2025)*, Main conference paper.

- Kim, T., Lee, S., Kang, J., Choi, Y., Yun, W., **Kim, N.**, Chen, Z., Xie, L., Song, K. (2025). IMC: A Benchmark for Invariant Learning under Multiple Causes. In *Proceedings of the CVPR 2025 Workshop on Domain Generalization: Evolution, Breakthroughs, and Future Horizons*, Best Paper Award.
- Oh, J., Choi, J., **Kim, N.**, Yun, T., Kwon, R., Song, H. (2025). Learning to Verify Summary Facts with Fine-Grained LLM Feedback. In *Proceedings of the 2025 International Conference on Computational Linguistics (COLING 2025)*, Selected for Oral Presentation.
- Oh, J., Choi, J., **Kim, N.**, Song, H. (2025). Improving Language Model Quality through LLM-based Fine-Grained Hallucinated Summary Generation. *Journal of Computing Practice*, vol. 31(2), pp. 91-97.
- Oh, J., Choi, J., **Kim, N.**, Song, H. (2024). Improving the Text Summary Quality Through Understanding the Hallucination Level of Summarization Using Large Language Models. In *Proceedings of the Korea Computer Congress (KCC 2024)*, Selected for Oral Presentation.

Patent

- Patent Pending – KR Patent Application No. 10-2025-0118216, KAIST, 2025.,
  Title: *Robust Dataset Condensation using Supervised Contrastive Learning*.

Scholorships

- **KAIST Support Scholarship** *Feb 2024 - Present*
  Government-funded full tuition scholarship for M.S. program KAIST
- **Brain Korea 21 (BK21) Scholarship** *Feb 2024 - Present*
  Government-funded research scholarship for graduate students National Research Foundation of Korea
- **Yonsei Welfare Scholarship** *Mar 2019 - Jun 2023*
  Full tuition scholarship for B.S. program Yonsei University
- **University Innovation Support Scholarship** *Sep 2020 - Feb 2021*
  Scholarship awarded for the development and advancement of an innovative start-up idea Yonsei University
- **Teaching Assistant Scholarship for the Data Science Program** *Dec 2020 - Feb 2021*
  Teaching assistant for the Data Science program, responsible for editing and preparing lecture videos Yonsei University

Honors and Awards

- **Best Paper Award** *Jun 2025*
  CVPR 2025 Workshop on Domain Generalization: Evolution, Breakthroughs, and Future Horizons
- **Outstanding Presentation Paper Award** *Jul 2024*
  Korea Computer Congress 2024
- **1st Place, Promotional Video Contest** *Feb 2022*
  Department of Industrial Engineering, Yonsei University
- **Yonsei Social Entrepreneurship Award** *Feb 2021*
  Yonsei University

Language Proficiency

- **Languages:** Korean (Native), English (Fluent, TOEFL iBT 111)

Leadership Experience

- **Academic & Campus Life Mentor for Freshmen** *Oct 2019 - Aug 2020*
  Institute for Higher Education Innovation, Yonsei University
- **Freshman Class President** *Mar 2019 - Aug 2019*
  Department of Industrial Engineering, Yonsei University