

Jeonghwan Choi

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RESEARCH INTEREST

My research focuses on 1) *Retrieval-Augmented Generation (RAG)*, designing robust RAG frameworks and developing evaluation methodologies for RAG and LLM reliability in knowledge-intensive tasks, 2) *human-AI alignment* through preference learning, and 3) *LLM-based agent simulation*, where language models are used to simulate complex behaviors and interactions. Beyond these, motivated by my work on agent simulation, I am recently expanding my research toward *Physical AI*, particularly world model-based approaches for robot learning and sim-to-real transfer.

EDUCATION

- **Korea Advanced Institute of Science and Technology (KAIST)** Feb 2025 - Present
Ph.D. Program, Industrial & Systems Engineering, Advisor: Prof. Hwanjun Song
(Integrated from M.S.) Daejeon, South Korea
- **Korea Advanced Institute of Science and Technology (KAIST)** Feb 2024 - Feb 2025
M.S., Graduate School of Data Science (GPA: 4.22/4.3), Advisor: Prof. Hwanjun Song Daejeon, South Korea
- **Yonsei University** Feb 2024
B.A. Economics, Statistics Double Major (GPA: 4.21/4.3) Seoul, South Korea

PUBLICATIONS

International Publications

- [21] SoCRATES: Towards Reliable Automated Evaluation of Proactive LLM Mediation across Domains and Socio-cognitive Variations
Taewon Yun, Hyeonseong Park, Jeonghwan Choi, HaYoon Park, Yeeun Choi, Hwanjun Song
Under Review, 2026.
- [20] Toward Agentic Retrieval-Augmented Generation for Enterprise Retail Workflows over Heterogeneous Data Sources
Jeonghwan Choi, Jibin Hwang, HaYoon Park, Hyeonjae Cheon, Hwanjun Song
Under Review, 2026.
- [19] Towards Robust Retrieval-Augmented Generation via Reliability-Aware Adaptive Evidence Selection
Minkyu Che, Jihwan Oh, Jeonghwan Choi, Jeesu Jung, Hwanjun Song
Findings of the Conference on Empirical Methods in Natural Language Processing (**Findings of EMNLP**), 2026.
- [18] What Makes a Sale? Simulating End-to-End Seller-Buyer Retail Dynamics with LLM Agents
Jeonghwan Choi, Jibin Hwang, Gyeonghun Sun, Minjeong Ban, Taewon Yun, Hwanjun Song
Conference on Language Modeling (**COLM**), 2026.
- [17] Towards Query-Agnostic RAG Evaluation via Query Coverage and Claim Verifiability
Jeonghwan Choi, Taewon Yun, Minjeong Ban, Gyeonghun Sun, Jae-gil Lee, Hwanjun Song
Conference on Language Modeling (**COLM**), 2026.
- [16] RAQE: Reranker-Aligned Query Expansion via Label-Free Group-Relative Policy Optimization
Gyeonghun Sun, Jeonghwan Choi, Hwanjun Song
Conference on Language Modeling (**COLM**), 2026.
- [15] Distilling Long-CoT Reasoning through Collaborative Step-wise Multi-Teacher Decoding
Taewon Yun, Jisu Shin, Jeonghwan Choi, Seunghwan Bang, Hwanjun Song
Findings of the Association for Computational Linguistics (**Findings of ACL**), 2026.
- [14] Completing Missing Annotation: Multi-Agent Debate for Accurate and Scalable Relevant Assessment for IR Benchmarks
Jeonghwan Choi*, Minjeong Ban*, Hyangsuk Min*, Nicole Hee-yeon Kim, Minseok Kim, Jae-gil Lee, Hwanjun Song
International Conference on Learning Representations (**ICLR**), 2026.
- [13] Aligning Extraction and Generation for Robust Retrieval-Augmented Generation
Hwanjun Song, Jeonghwan Choi, Minseok Kim
International Conference on Web Search and Data Mining (**WSDM**), 2026.
- [12] BRIDGE: Toward Faithful RAG Benchmarking via Retrieval-Generation Alignment
Jeonghwan Choi*, Minjeong Ban*, Hyangsuk Min*, Hee-yeon Kim, Seunghwan Bang, Hwanjun Song
ACM International Conference on Information and Knowledge Management (**RDGENAI@CIKM**), 2025.

- [11] Word2Passage: Word-level Importance Re-weighting for Query Expansion
Jeonghwan Choi, Minjeong Ban, Minseok Kim, Hwanjun Song
Findings of the Association for Computational Linguistics (**Findings of ACL**), 2025.
- [10] Learning to Verify Summary Facts with Fine-Grained LLM Feedback
Jihwan Oh, Jeonghwan Choi, Nicole Hee-Yeon Kim, Taewon Yun, Hwanjun Song
International Conference on Computational Linguistics (**COLING**), 2025.

Domestic Publications

- [9] Toward Low-Cost Query Expansion: Label-Free Reward Design via Reranker Scores
Gyeonghun Sun, Jeonghwan Choi, Sundong Kim, Hwanjun Song
Korea Computer Congress (KCC), 2026.
- [8] Simulating Seller-Buyer Retail Interactions and Sales Strategies with LLM Agents
Jeonghwan Choi, Jibin Hwang, Gyeonghun Sun, Minjeong Ban, Taewon Yun, Hwanjun Song
Korea Computer Congress (KCC), 2026.
- [7] A Query Decompositional Framework for Fine-grained RAG Assessment
Jeonghwan Choi, Minjeong Ban, Taewon Yun, Jihwan Oh, Yuho Lee, Hwanjun Song
KIISE Transactions on Computing Practices, 2026. (*Extended version of KSC 2025 Best Paper*)
- [6] A Query Decompositional Framework for Fine-grained RAG Assessment
Jeonghwan Choi, Minjeong Ban, Nicole Hee-Yeon Kim, Taewon Yun, Yuho Lee, Hwanjun Song
Korea Software Congress (KSC), 2025. (**Best Paper**)
- [5] A Benchmark Dataset for Retrieval-Augmented Generation Considering Performance Alignment between Retrieval and Generation
Jeonghwan Choi*, Minjeong Ban*, Hyangsuk Min*, Taewon Yun, Jihwan Oh, Hwanjun Song
Korea Computer Congress (KCC), 2025. (**Best Presentation**)
- [4] Robust Dataset Condensation via Semi-Supervised Learning
Hee-yeon Kim, Jeonghwan Choi, Yuho Lee, Hwanjun Song
Korea Computer Congress (KCC), 2025.
- [3] Improving Language Model Quality through LLM-based Fine-Grained Hallucinated Summary Generation
Jihwan Oh, Jeonghwan Choi, Nicole Hee-Yeon Kim, Taewon Yun, Hwanjun Song
KIISE Transactions on Computing Practices, 2025.
- [2] Training Summary Evaluation Model with Fine-Grained LLM Feedback
Jihwan Oh, Jeonghwan Choi, Taewon Yun, Hyangsuk Min, Hwanjun Song
Korea Software Congress (KSC), 2024. (**Best Presentation**)
- [1] Improving the Text Summary Quality Through Understanding the Hallucination Level of Summarization Using Large Language Models
Jihwan Oh, Jeonghwan Choi, Nicole Hee-Yeon Kim, Hwanjun Song
Korea Computer Congress (KCC), 2024. (**Best Presentation**)

PATENT

- **Method and Apparatus for Generating Answers Using Extended Query-Based Retrieval Utilizing Multi-Level Importance Reweighting** Sep 2025
Korean Intellectual Property Office (KIPO) Application No: 10-2025-0127517
• Inventors: Jeonghwan Choi (40%), Minjeong Ban (20%), Hwanjun Song (40%)
- **Cost-Efficient and Accurate Debate-Based Relevance Assessment System with Multi-Agents** Apr 2026
Korean Intellectual Property Office (KIPO) Application No: 10-2026-0066617
• Inventors: Jeonghwan Choi (20%), Minjeong Ban (20%), Hyangsuk Min (20%), Hee-yeon Kim (10%), Jae-gil Lee (10%), Hwanjun Song (20%)

PROJECT EXPERIENCE

- **National Research Foundation of Korea (NRF)** Sep 2026 - Aug 2028
Principal Investigator - Self-Evolving Physical AI
• Doctoral Student Research Grant, KRW 50,000,000 over two years
- **Ministry of Science and ICT (IITP)** Oct 2025 - Present
Research Team Member - Multimodal Agentic Platform for Conflict Mediation
• Developing a multimodal agentic AI for real-time conflict mediation using text, speech, and vision signals

- **GS Retail** Jan 2026 - June 2026
Project Manager - Retrieval-Augmented Generation for Retail
 - Developing a retail-specialized RAG framework with retail environment simulation.
- **National Research Foundation of Korea (NRF)** Apr 2024 - Present
Research Team Member - Language Model Reliability Enhancement System
 - Developing evaluation systems for AI-generated text and reducing hallucinations in LLMs
- **Institute of Information & Communications Technology Planning & Evaluation (IITP)** Sep 2024 - Present
Research Team Member - Korea-Canada Joint Research (KAIST-GIST-UBC)
 - Building value-aligned benchmark datasets for language, math, and medical domains
- **Korea Institute of Science and Technology Information (KISTI)** Jun 2025 - Dec 2025
Project Manager - Scientific Information RAG System
 - Optimized RAG pipeline for scientific domains, maximizing performance while reducing latency
- **Korea Institute of Science and Technology Information (KISTI)** Jun 2024 - Dec 2024
Project Manager - Korean Scientific RAG Framework Development
 - Developed and evaluated RAG framework optimized for Korean scientific domains

LEADERSHIP EXPERIENCE

- **Y-FoRM - Yonsei Forum of Risk Management** Sep 2022 - Aug 2023
President, AI-driven Financial Prediction Research Society
 - Led 30 members and delivered lectures on Statistics, Calculus, Linear Algebra, and Deep Learning

ACADEMIC SERVICE

- **2nd Workshop on LLM Agents for Social Simulation (LASS 2026)** Co-located with ACM CIKM 2026
Program Committee Member
- **DocInsights 2026: Workshop on Document Intelligence and Understanding** Co-located with EMNLP 2026
Reviewer

CERTIFICATIONS

- **ADsP (Advanced Data Analytics Semi-Professional)** March 2022
Korea Data Agency
- **FRM Part 1 (Financial Risk Manager)** July 2021
Global Association of Risk Professionals (GARP)
- **Investment Asset Management Professional** June 2020
Korea Financial Investment Association

HONORS AND AWARDS

- **Doctoral Student Research Grant (Principal Investigator)** 2026
National Research Foundation of Korea (NRF)
- **Best Paper** 2025
Korea Software Congress (KSC)
- **Best Presentation** 2025
Korea Computer Congress (KCC)
- **Best Presentation** 2024
Korea Software Congress (KSC)
- **Best Presentation** 2024
Korea Computer Congress (KCC)
- **National Scholarship for Humanities Excellence** 2023
Korea Student Aid Foundation (KOSAF)
- **High Honors (Top 3%)** 2023
Yonsei University
- **Guwon Foundation Scholarship (Top 1 in Department)** 2023
Guwon Scholarship Foundation
- **Highest Honors (Top 1%)** 2023
Yonsei University
- **High Honors (Top 3%)** 2022
Yonsei University

SKILLS

- **Languages:** English (Proficient), Korean (Native)
- **Programming:** Python, Java, R

TEACHING

- **Dynamic Programming and Reinforcement Learning (IE540)**
Teaching Assistant

KAIST, Spring 2025