# Chanwoong Yoon

cwyoon-99.github.io

✓ cwyoon99@gmail.com in in/chanwoong-yoon **G** Google Scholar

#### RESEARCH INTERESTS

Natural Language Processing, AI Safety, Retrieval-Augmented Language Models, Interpretability

#### **EDUCATION**

Korea University Seoul, Republic of Korea M.S. - Computer Science and Engineering; GPA: 4.0/4.0[Mar. 2024 - Presents] Ansan, Republic of Korea Hanyang University B.S. - Software, College of Computing; GPA: 3.66/4.0 [Mar. 2017 - Feb. 2023]

#### ACADEMIC EXPERIENCES

### Georgia Institute of Technology

Visiting Researcher (Advisor: Alan Ritter)

Atlanta, GA, USA [Oct. 2025 - Present]

- Working on fine-grained safety moderation of language models.
- Funded by Korea University-KIAT Scholarship Program (approx. \$22,000)

Data Mining and Information Systems Lab, Korea University Research Assistant (Advisor: Jaewoo Kang)

Seoul, Republic of Korea [Aug. 2023 - Sep. 2025]

- Improved retriever-augmented language models via context compression and query alignment.
- Developed a benchmark for long-context tasks, controlling for information density.
- Identified specific attention heads in language models for processing time-specific information.

Electronics and Telecommunications Research Institute (ETRI) Daejeon, Republic of Korea Research Intern (Advisor: Junseong Bang) [Jul. 2022 - Aug. 2022]

- Worked on efficient training of Dialogue State Tracking (DST) models.

## SELECTED PUBLICATIONS

- 1. CompAct: Compressing Retrieved Documents Actively for Question Answering. C. Yoon, T. Lee, H. Hwang, M. Jeong, J. Kang. EMNLP 2024
- 2. Ask Optimal Questions: Aligning Large Language Models with Retriever's Preference in Conversational Search. C. Yoon\*, G. Kim\*, B. Jeon, S. Kim, Y. Jo, J. Kang. Findings of NAACL 2025
- 3. ETHIC: Evaluating Large Language Models on Long-Context Tasks with High Information Coverage. T. Lee, C. Yoon, K. Jang, D. Lee, M. Song, H. Kim, J. Kang, NAACL 2025
- 4. Temporal Heads: Where Language Models Recall Time-specific Information. Y. Park, C. Yoon, J. Park, M. Jeong, J. Kang. ACL 2025
- 5. ChroKnowledge: Unveiling Chronological Knowledge of Language Models in Multiple Domains, Y. Park, C. Yoon, J. Park, D. Lee, M. Jeong, J. Kang. ICLR 2025

#### RESEARCH ACTIVITY

Data Mining and Information Systems Lab, Korea University

[Aug. 2023 - Sep. 2025]

- CompAct: Context Compression for Retrieved-Augmented Language Model
  - Developed an active strategy to compress extensive documents without losing information in context.
  - Showed significant improvements in both performance and compression rate on QA benchmarks
  - Demonstrated flexibility as a cost-efficient plug-in module with various off-the-shelf retrievers or readers, achieving exceptionally high compression rates (47x).
- RetPO: Retriever's Preference Optimization
  - Developed a framework to align query rewriting models with target retriever preferences.

- Achieved superior performance, significantly outperforming existing baselines, including GPT-3.5.
- Evaluating Language Models on Long-Context Tasks with High Information Coverage
  - Developed a benchmark to evaluate language models' ability to reason over scattered information in dense, long contexts.

## Temporal Heads: Where Language Models Recall Time-Specific Information

• Discovered Temporal Heads, specific attention heads in language models primarily responsible for processing temporal knowledge.

## Electronics and Telecommunications Research Institute (ETRI)

[Jul. 2022 - Aug. 2022]

- Trained efficient dialogue state tracking models with parameter-efficient fine-tuning

# AWARDS AND HONORS

Research Fund Recipient, Korea Institute for Advancement of Technology (KIAT)

[May 2025]

- Selected to receive over USD 21,000 in research support

Outstanding Research Paper Award, Korea University

[Feb. 2025]

- CompAct: Compressing Retrieved Documents Actively for Question Answering (EMNLP 2024)

Encouragement Award, KIISE Korea Computer Congress Competition

[Jul. 2022]

Merit-based Scholarships (50% Tuition), Hanyang University

[Fall 2020 - Spring 2022]

#### **FULL PUBLICATIONS**

- 6. Assessing LLM Reasoning Steps via Principal Knowledge Grounding. H. Hwang, Y. Cho, C. Yoon, Y. Park, M. Song, K. Lee, G. Kim, J. Kang. Findings of EMNLP 2025
- 7. Outlier-Safe Pre-Training for Robust 4-Bit Quantization of Large Language Models. J. Park, T. Lee, C. Yoon, H. Hwang, J. Kang. ACL 2025
- 8. Rationale-Guided Retrieval Augmented Generation for Medical Question Answering. J. Sohn, Y. Park, C. Yoon, S. Park, H. Hwang, M. Sung, H. Kim, J. Kang. NAACL 2025
- 9. LAPIS: Language Model-Augmented Police Investigation System. H. Kim, D. Kim, J. Lee, C. Yoon, D. Choi, M. Gim, J. Kang. CIKM 2024
- 10. Small Language Models Learn Enhanced Reasoning Skills from Medical Textbooks. H. Kim, H. Hwang, J. Lee, S. Park, D. Kim, T. Lee, <u>C. Yoon</u>, J. Sohn, D. Choi, J. Kang. NPJ Digital Medicine

## TECHNICAL SKILLS

**Programming:** Python, C, C++

Libraries: PyTorch, NumPy, Matplotlib, Transformers, TransformerLens

Machine Learning & Deep Learning (LLMs): Post-training Strategies (Fine-tuning, DPO)
Natural Language Processing (NLP): Information Retrieval, Retrieval-Augmented Generation

#### RESEARCH & ANALYTICAL SKILLS

Theoretical Foundations: Linear Algebra, Probabilistic Modeling, Information Theory

Scientific Writing & Publication: Experience publishing at top-tier conferences (ICLR, ACL, EMNLP, NAACL, CIKM)

Collaboration & Mentorship: Experience in academic collaborations as a first author and co-author (mentoring junior researchers)

## ACADEMIC SERVICE

- Reviewer: ICLR 2026

- Secondary Reviewer: ARR Review (Dec. 2025), ACL 2025