

Woojun Jung

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RESEARCH INTERESTS

Representation Learning & Reinforcement Learning: adaptive memory and structured representations for long-horizon AI systems

Human-AI Interaction: personalized and interactive AI systems for human-centered decision support

EDUCATION

Korea University Mar. 2025 – Present

M.S. Student in Computer Science and Engineering

- **Advisor:** Prof. [Susik Yoon](#)
- **Selected Coursework:** Deep Learning (A), Optimization Theory (A), Brain and Machine Cognition (A+)

Korea University Mar. 2022 – Feb. 2025

B.E. in Computer Science and Engineering

- **Selected Coursework:** Algorithm (A+), Computer Architecture (A), Natural Language Processing (A), Artificial Intelligence (A), Data Science (A), Reinforcement Learning (A)

Korea University Mar. 2016 – Feb. 2022

B.F.A in Industrial and Information Design

Military Service: Republic of Korea Air Force (2017 – 2019)

- **Selected Coursework:** Interaction Design (A+), Interface Design (A+), Design and Human Factors (A+)

RESEARCH EXPERIENCE

Research Intern, DAIS Lab, Korea University Aug. 2024 – Feb. 2025

Research Assistant, DAIS Lab, Korea University Mar. 2025 – Present

Structured Understanding of Tabular Data ICML 2026; SIGIR 2025

- Led two student-first-author projects on representation learning for domain-specific tables.
- Led problem formulation, method design, implementation, experiments, and manuscript preparation.

Structured Understanding in Evolving Information Streams KDD 2026

- Developed the Temporal QA component of a benchmark spanning Topic Clustering and Summarization.
- Designed and implemented its evaluation protocol, benchmark dataset, and human-annotation guidelines.

PUBLICATIONS

** indicates equal contribution*

Peer-reviewed Papers

- [3] **Segment-driven Structural Induction and Semantic Alignment for Heterogeneous Tabular Representation**

Woojun Jung and Susik Yoon

ICML 2026 — [\[arXiv\]](#) [\[Code\]](#)

- [2] **Can Structural Cues Save LLMs? Evaluating Language Models in Massive Document Streams**

Yukyung Lee, Yebin Lim*, [Woojun Jung*](#), Wonjun Choi, Susik Yoon

KDD 2026 — [\[arXiv\]](#) [\[Code\]](#)

- [1] **HAETAE: In-Domain Table Pretraining with Header Anchoring**

Woojun Jung and Susik Yoon

SIGIR 2025 — [\[ACM DL\]](#) [\[Code\]](#)

APPLIED RESEARCH COLLABORATION

Foundation Models for Enterprise Relational Data, KT (Korea Telecom)

2025–Present

- Collaborated with KT on foundation-model methods for enterprise relational databases.
- Explored schema-aware representation learning for large-scale enterprise tables.
- Explored schema-linking methods that map natural-language questions to relevant tables and columns.
- Analyzed challenges in adapting tabular ML to organizational data with heterogeneous schemas.

ONGOING RESEARCH

Personalized Working Memory for Long-Horizon AI Systems

2026–Present

- Exploring how language models can jointly consolidate reasoning traces and user-specific context into a compact working memory across multi-session interactions.
- Investigating reinforcement learning methods for deciding what user information to retain, update, or discard as preferences and interaction histories evolve.
- Studying memory-efficient personalization for small, on-device language models under limited context and computational budgets.

SELECTED PROJECTS

Projects translating AI into interactions that support human understanding, agency, and decision-making.

Dr.Snap: Multimodal Dermatology Decision-Support System

2024

- Designed a questionnaire-driven, multi-turn interaction that helps users communicate symptoms and receive structured diagnostic support.
- Developed an end-to-end user flow from symptom intake and examination to diagnosis and follow-up guidance.
- Implemented a multimodal prototype combining image classification, retrieval-augmented generation, and conversational interaction; received Runner-up Award at the Korea University Capstone Design Competition.

Neuro: BCI-Enabled VR Interaction Concept

2021

- Designed a speculative BCI–VR concept centered on how emerging neurotechnology could support memory, imagination, and interpersonal communication.
- Developed the wearable form factor, interaction scenarios, and visual prototypes for an approachable everyday BCI experience.
- Explored how neural signals could be translated into meaningful feedback, creative expression, and user-controlled virtual experiences.

TEACHING EXPERIENCE

Teaching Assistant, Data Science, Korea University

2025 Spring

- Prepared and delivered tutorials on LaTeX and visualization with Matplotlib for undergraduate students.

Teaching Assistant, Artificial Intelligence, Korea University

2025 Fall

- Prepared and delivered a tutorial on multimodal representation learning with CLIP for undergraduate students.

AWARDS & SCHOLARSHIPS

Master's Fellowship (KRW 12,000,000), National Research Foundation of Korea (NRF)

2025–2026

Runner-up Award (3rd Place), Korea University Capstone Design Competition

2024

Runner-up Award (3rd Place), Samsung Design Competition

2019

SKILLS

Programming: Python, C, SQL, HTML, CSS, JavaScript, LaTeX

Machine Learning & Data Science: PyTorch, HF Transformers, Pandas, Scikit-learn, Matplotlib

Design & Hardware Prototyping: Figma, Illustrator, Photoshop, Rhinoceros, KeyShot, 3D Printing, Arduino

Languages: Korean (Native), English (Fluent)