

Donghyun Kim

Ph.D. Student in Computer Science

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EDUCATION

Yonsei University

Ph.D. Student in Computer Science

Seoul, Republic of Korea

Sep. 2019 – Present

- Dissertation: Exploring Large Language Models for Verification and Refinement of Knowledge Graphs
- Advisor: Prof. Kyong-Ho Lee

Pusan National University

B.S. in Computer Science and Engineering

Busan, Republic of Korea

Mar. 2013 – Feb. 2017

EXPERIENCE

Republic of Korea Army

Army Officer, Discharged as a First Lieutenant

Republic of Korea

Mar. 2017 – Jun. 2019

- Served as a signal platoon leader
- Maintained the Army tactical voice, data, and information systems

PUBLICATIONS

- [11] **Donghyun Kim**, Hyeongjun Yang, Seokju Hwang, Kyuhwan Yeom, Midan Shim, and Kyong-Ho Lee, “**Active Learning Framework for Improving Knowledge Graph Accuracy**,” *IEEE Access (IF: 3.4)*, Under Review.
- [10] Chanhee Lee, **Donghyun Kim**, Wongyu Kim, Kyungchan Lee, Youbin Ahn, Kyong-Ho Lee, Donghoon Shin, and Yeonsoo Lee, “**Optimizing Training Data for Persona-grounded Dialogue via Synthetic Label Augmentation**,” *Expert Systems With Applications (IF: 7.5)*, Under Review.
- [9] Hyeongjun Yang, **Donghyun Kim**, Gayeon Park, Kyuhwan Yeom, and Kyong-Ho Lee, “**CoreSense: Social Commonsense Knowledge-Aware Context Refinement for Conversational Recommender System**,” *IEEE Transactions on Knowledge and Data Engineering (IF: 8.9)*, Under Review.
- [8] Yeseul Gong, Heeseon Kim, Seokju Hwang, **Donghyun Kim**, and Kyong-Ho Lee, “**Multi-Domain Dialogue State Tracking via Dual Dynamic Graph with Hierarchical Slot Selector**,” *Knowledge-Based Systems (IF: 7.2)*, Under Review.
- [7] Taejung Heo, Seokju Hwang, Yeseul Gong, **Donghyun Kim**, Kyong-Ho Lee, Taeho Kim, and Eunji Kim, “**Ontology-based Activity Intention Recognition via Human-in-the-loop Framework**,” *User Modeling and User-Adapted Interaction (IF: 3.0)*, Under Review.
- [6] Kyungchan Lee, Chanhee Lee, **Donghyun Kim**, and Kyong-Ho Lee, “**Dialogue Act-based Partner Persona Extraction for Consistent Personalized Response Generation**,” *Expert Systems With Applications (IF: 7.5)*, Vol. 254, Nov. 2024.
- [5] Seungmin Seo, Byungkook Oh, Jeongbeom Jeoung, **Donghyun Kim**, Kyong-Ho Lee, Donghoon Shin, and Yeonsoo Lee, “**Active Learning for Cross-sentence N-ary Relation Extraction**,” *Information Sciences (IF: 8.1)*, Vol. 645, Oct. 2023.
- [4] **Donghyun Kim**, Youbin Ahn, Wongyu Kim, Chanhee Lee, Kyungchan Lee, Kyong-Ho Lee, Jeonguk Kim, Donghoon Shin, and Yeonsoo Lee, “**Persona Expansion with Commonsense Knowledge for Diverse and Consistent Response Generation**,” In *Proceedings of the EACL 2023*.
- [3] **Donghyun Kim**, Youbin Ahn, Chanhee Lee, Wongyu Kim, Kyong-Ho Lee, Donghoon Shin, and Yeonsoo Lee, “**Concept-based Persona Expansion for Improving Diversity of Persona-Grounded Dialogue**,” In *Proceedings of the EACL 2023*.

- [2] Wongyu Kim, Youbin Ahn, **Donghyun Kim**, and Kyong-Ho Lee, “**Emp-RFT: Empathetic Response Generation via Recognizing Feature Transitions between Utterances**,” In *Proceedings of the NAACL-HLT 2022*.
- [1] Seungmin Seo, **Donghyun Kim**, Youbin Ahn, and Kyong-Ho Lee, “**Active Learning on Pre-trained Language Model with Task-Independent Triplet Loss**,” In *Proceedings of the AAAI 2022*.

PATENTS

- [2] Kyong-Ho Lee, Wongyu Kim, Youbin Ahn, and **Donghyun Kim**, “**Method and Apparatus for Generating Empathetic Responses via Recognizing Emotion and Keyword Transitions between Utterances**,” KR Patent, filed Mar. 15, 2023. (No. 10-2023-0034098)
- [1] Kyong-Ho Lee, **Donghyun Kim**, Youbin Ahn, Wongyu Kim, and Chanhee Lee, “**Method and Apparatus for Generating Expanded Persona Sentences**,” KR Patent, filed Dec. 31, 2021. (No. 10-2021-0194377)

RESEARCH PROJECTS

한국형 임무공간 개념모델 자동화 생성 및 검증 기술 <i>Automated Construction and Verification of CMMS-K</i> · Project Leader	국방기술진흥연구소 (KRIT) Nov. 2022 – Present
사용자 선호도 파악을 위한 지식그래프 기반 대화형 추천시스템 <i>Refining User Preferences by Leveraging KGs for Conversational Recommender System</i> · Project Member	한국연구재단 (NRF) Mar. 2022 – Feb. 2025
질의 의도 기반 지식그래프 정보 검색 <i>Query Intent-based Information Retrieval from KGs</i> · Project Member	Samsung Research Dec. 2023 – Nov. 2024
엔지니어링 의사결정 지원을 위한 자연어 처리/딥러닝 기반 시맨틱 웹 알고리즘 연구 <i>NLP/DL-based Semantic Web Algorithm for Engineering Decision Support</i> · Project Member	Hyundai Motor Company Jun. 2023 – Jul. 2024
온톨로지 기반 멀티타입 상호작용 모델링 기술 <i>Ontology-based Multi-type Interaction Modeling</i> · Project Member	Samsung Research Dec. 2022 – Nov. 2023
서비스 로봇의 지능 고도화를 위한 동적 상황 추론기 개발 <i>Dynamic Context Reasoning for Advanced Intelligent Service Robot</i> · Project Leader	Hyundai Motor Company Jul. 2022 – Aug. 2023
지식그래프 기반 사용자 의도 및 커뮤니티 탐색 기술 <i>Knowledge Graph based Intent-Community Detection</i> · Project Member	Samsung Research Dec. 2021 – Nov. 2022
동적으로 진화하는 지식그래프의 정보 품질 개선을 위한 심층 표현학습 <i>Deep Representation Learning for Improving the Information Quality of Dynamically Evolving KGs</i> · Project Member	한국연구재단 (NRF) Sep. 2019 – Feb. 2022
일관적 페르소나 확장 및 훈련 최적화를 통한 챗봇 대화 품질 향상 <i>Improving Dialogue Quality via Consistent Persona Expansion and Training Optimization</i> · Project Leader	NCSoft Jun. 2021 – Dec. 2021

지식그래프를 이용한 페르소나 확장 및 조합을 통한 챗봇 대화 품질 향상
Improving Dialogue Quality via Persona Expansion and Combination using KGs
· **Project Leader**

NCSOFT
Nov. 2020 – May. 2021

액티브 러닝을 활용한 다항 관계 지식 추출 및 구조화 기술 연구
Active Learning based N-ary Relation Extraction and Strucuralization
· Project Member

NCSOFT
Sep. 2019 – Apr. 2020

HONORS & AWARDS

Yonsei Young Researcher Fellowship	2023
Brain Korea 21+ Academic Research Fellowship	2021-2, 2023-1
Brain Korea 21+ Academic Scholarship	2020-2, 2021-1
Undergraduate Academic Scholarship	2015-2, 2016-2