

Haeun Yu

Seoul, Republic of Korea

✉ haeun.yu204@gmail.com | 🏠 <https://haeunyu.github.io>

EDUCATION

MSc in Computer Science and Engineering

Mar 2021 – Feb 2023

Sungkyunkwan University, Suwon, Republic of Korea

- Thesis: Dialogue State Tracking System with Graph-structured Syntactic Discourse Information
- Supervised by [Prof. Youngjoong Ko](#)
- Relevant Courses: Natural Language Processing Theory and applications, Machine learning with Graphs, AI and Ethics, Applied Interaction Linguistics

BA in Global Korean Studies & BSc in Bigdata Science

Mar 2017 – Feb 2021

Sogang University, Seoul, Republic of Korea

- Honors : *Cum Laude*
- Exchange student at Umeå University, Umeå, Sweden (Spring 2019)

PROFESSIONAL EXPERIENCES

Assistant Research Engineer

Feb 2023 – Present

Korea Telecom (KT) AI2XL Lab.

RESEARCH EXPERIENCES

Dialogue System Track Challenge 11 (DSTC11) Track 3

May 2022 – Dec 2022

With Korea Telecom (KT) AI2XL Lab.

- Augmented the dialogue using new ontology crawled from wikipedia with fine-tuned t5 model to train the model with various named entities.

Integrated Learning based Dialogue Systems Using Knowledge Graphs

Mar 2022 – Dec 2022

Supported by National Research Foundation of Korea (NRF)

- Direct the collection phase of Korean dialogue that requires commonsense
- Develop a Korean dialogue state tracking model utilizes generation approach

Dialogue System Track Challenge 10 (DSTC10) Track 2 Task 1

Jul 2021 – Dec 2021

Supported by LG Electronics Corp.

- As a team leader, developed extraction-based dialogue state tracking model for spoken dialogue using BERT
- With data augmentation and modifying existing model, improved the joint goal accuracy from 0.31 to 18.21
- Achieved rank 5th out of 11 entries in Track 2 Task 1 Dialogue State Tracking (Team A09)

Query Reformulation Using a Dictionary based Chinese Character Graph

Sep 2020 – Jun 2021

Supported by Naver Corp.

- Implemented BART based query reformulation model for comparison in both English and Korean
- With Galago toolkit, ran searching with reformulated queries on the TREC Clinical Decision Support dataset

Eternal Testimony, AI Team

Mar 2020 – Dec 2020

Supported by Ministry of Gender Equality and Family Republic of Korea

- Organized the collection of data, constructed the dialogue agent using Google Dialogflow api from scratch

PUBLICATIONS

- [1] Haeun Yu, Youngjoong Ko. Enriching the Dialogue State Tracking Model with a Syntactic Discourse Graph. (in submission)
- [2] Bosung Kim, Hyewon Choi, Haeun Yu and Youngjoong Ko. Graph-based query reformulation for descriptive queries of jargon words using definitions. *Expert Systems with Applications, Elsevier Science*, Volume 214, March 2023. [\[paper\]](#)
- [3] Taesuk Hong, Junhee Cho, Haeun Yu, Youngjoong Ko, Jungyun Seo. Knowledge-grounded Dialogue Modeling with Dialogue-State Tracking, Domain Tracking, and Entity Extraction. *Computer Speech and Language, Elsevier Science*, Volume 78, March 2023. [\[paper\]](#)
- [4] Sunyoung Park, Kyuri Choi, Haeun Yu, Youngjoong Ko. Never Too Late to Learn: Regularizing Gender Bias in Coreference Resolution. *Proceedings of the Sixteenth ACM International Conference on Web Search and Data Mining (WSDM 2023)*, pp. 15-23, in Singapore, Singapore, February 2023. [\[paper\]](#)
- [5] Haeun Yu, Youngjoong Ko. Entity Graph Based Dialogue State Tracking Model with Data Collection and Augmentation for Spoken Conversation. *Journal of Korean Institute of Information Scientists and Engineers*

(*KIISE*). Vol. 49, No. 10, pp. 891-897, October 2022. [\[paper\]](#)

- [6] Haeun Yu, Taesuk Hong, Youngjoong Ko and Kwangyong Lee. Adapting Pre-trained Language Model for Dialogue State Tracking on Spoken Conversations. *DSTC10 Workshop in the Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2022)*, in Virtual Conference, February 2022. [\[paper\]](#)
- [7] Bosung Kim, Hyewon Choi, Haeun Yu and Youngjoong Ko. Query Reformulation for Descriptive Queries of Jargon Words Using a Knowledge Graph based on a Dictionary. *Proceedings of the 30th ACM International Conference on Information and Knowledge Management (CIKM 2021)*, pp. 854-862, in Virtual Conference, November 2021. [\[paper\]](#)

TEACHING	TA, Natural Language Processing (ADS5016-01)	2021-fall
EXPERIENCES	TA, Data Structure & Algorithms (ADS5030-01)	2022-fall
HONORS	KT AI Sponsorship <ul style="list-style-type: none">Selected as a scholarship student in recognition of the experiences regarding dialogue understanding.	Jan 2022 – Jan 2023
SKILLS	Languages Korean (<i>native</i>) / English (<i>IELTS</i> : 7.5) Techniques Python (Advanced / Libraries : transformers, pytorch, dgl)	
VOLUNTEERING	Student Volunteer, COLING 2022 Gyeong-ju, South Korea	Oct 2022