

# SOHEE YANG

Ph.D. Student/Research Scientist Intern @ UCL/Google DeepMind

London, England, United Kingdom ◊ Last Update: 26 Sep 2024

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## EDUCATION

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- Ph.D. in Computer Science** Mar 2023 - Present  
@ **UCL NLP**, Department of Computer Science, University College London  
& Language Team, **Google DeepMind** (50/50 Time Split)  
· Advisors: **Pontus Stenetorp** and **Sebastian Riedel**
- M.S. in Artificial Intelligence** Mar 2021 - Feb 2023  
@ **Language & Knowledge Lab**, Kim Jaechul Graduate School of AI, KAIST  
· Advisor: **Minjoon Seo**
- B.S. in Computer Science and Engineering (*Summa Cum Laude*)** Mar 2014 - Feb 2018  
@ School of CSEE, Handong Global University  
· GPA: 4.45 / 4.5 (1st rank in CSEE)

## EMPLOYMENT

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- Language Team, Google DeepMind** Mar 2023 - Present  
*Part-Time Research Scientist Intern during Ph.D.*  
· Research on Latent Reasoning of Large Language Models (LLMs)
- Language & Knowledge Lab, KAIST** Mar 2021 - Feb 2023  
*Research Assistant (Supervisor: Minjoon Seo)*  
· Research on Prompt-based Learning, Parametric Knowledge Update of LLMs, Generative Retrieval
- Clova AI, NAVER Corp.** Sep 2018 - Feb 2021  
*Research Engineer*  
· Research on Dialogue System, Information Retrieval, Open-Domain Question Answering  
· Text Parser of OCR @ Parsing Team [Demo] Oct 2019 - Feb 2021  
· NLU of AiCall (Dialogue System) @ DUET TF [Demo] [Japn] [Korean] Sep 2018 - Oct 2019
- AI Team, Kakao Corp.** Jan 2018 - Jun 2018  
*Research Intern*  
· NLU and Synthetic Data Generator for Dialogue System @ Context Part
- Deep Learning Lab, Handong Global University** Jun 2016 - Dec 2017  
*Undergraduate Researcher (Supervisor: In-Jung Kim)*  
· Deep Learning-based Dialogue State Tracker and Intent Classifier for Dialogue Systems  
· Smart T-Commerce Service Using Big Data and Deep Learning [Paper] [Patent]

## PUBLICATIONS

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\* indicates equal contribution.

Peer-Reviewed Conference/Journal Papers

- [1] Hoyeon Chang, Jinho Park, Seonghyeon Ye, **Sohee Yang**, Youngkyung Seo, Du-Seong Chang, Minjoon Seo. **How Do Large Language Models Acquire Factual Knowledge During Pre-training?**. In *NeurIPS*, 2024. [[Paper](#)] [[Tweet](#)]
- [2] Eden Biran, Daniela Gottesman, **Sohee Yang**, Mor Geva, Amir Globerson. **Hopping Too Late: Exploring the Limitations of Large Language Models on Multi-Hop Queries**. In *EMNLP*, 2024. [[Paper](#)] [[Code](#)]
- [3] Soyoung Yoon, Chaeun Kim, Hyunji Lee, Joel Jang, **Sohee Yang**, Minjoon Seo. **Exploring the Practicality of Generative Retrieval on Dynamic Corpora**. In *EMNLP*, 2024. [[Paper](#)] [[Tweet](#)]
- [4] **Sohee Yang**, Elena Gribovskaya, Nora Kassner, Mor Geva\*, Sebastian Riedel\*. **Do Large Language Models Latently Perform Multi-Hop Reasoning?**. In *ACL*, 2024. [[Paper](#)] [[Poster](#)] [[Slides](#)] [[Tweet](#)]
- [5] **Sohee Yang**, Jonghyeon Kim, Joel Jang, Seonghyeon Ye, Hyunji Lee, Minjoon Seo. **Improving Probability-based Prompt Selection Through Unified Evaluation and Analysis**. *Transactions of the Association for Computational Linguistics (TACL)*, presented in *ACL*, 2024. [[Paper](#)] [[Code](#)] [[Poster](#)] [[Slides](#)] [[Tweet](#)]
- [6] Seonghyeon Ye, Hyeonbin Hwang, **Sohee Yang**, Hyeongu Yun, Yireun Kim, Minjoon Seo. **Investigating the Effectiveness of Task-Agnostic Prefix Prompt for Instruction Following**. In *AAAI*, 2024. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [7] Joel Jang, Dongkeun Yoon, **Sohee Yang**, Sungmin Cha, Moontae Lee, Lajanugen Logeswaran, Minjoon Seo. **Knowledge Unlearning for Mitigating Privacy Risks in Language Models**. In *ACL*, 2023. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [8] Hyunji Lee, Jaeyoung Kim, Hoyeon Chang, Hanseok Oh, **Sohee Yang**, Vlad Karpukhin, Yi Lu, Minjoon Seo. **Nonparametric Decoding for Generative Retrieval**. In *Findings of ACL*, 2023. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [9] Hyunji Lee, **Sohee Yang**, Hanseok Oh, Minjoon Seo. **Generative Multi-hop Retrieval**. In *EMNLP*, 2022. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [10] Joel Jang\*, Seonghyeon Ye\*, Changho Lee, **Sohee Yang**, Joongbo Shin, Janghoon Han, Gyeonghun Kim, Minjoon Seo. **TemporalWiki: A Lifelong Benchmark for Training and Evaluating Ever-Evolving Language Models**. In *EMNLP*, 2022. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [11] Joel Jang, Seonghyeon Ye, **Sohee Yang**, Joongbo Shin, Janghoon Han, Gyeonghun Kim, Stanley Jungkyu Choi, Minjoon Seo. **Towards Continual Knowledge Learning of Language Models**. In *ICLR*, 2022. [[Paper](#)] [[Code](#)] [[Tweet](#)]
- [12] Wonseok Hwang, Jinyeong Yim, Seunghyun Park, **Sohee Yang**, Minjoon Seo. **Spatial Dependency Parsing for Semi-Structured Document Information Extraction**. In *Findings of ACL*, 2021. [[Paper](#)]
- [13] Sewon Min et al. **NeurIPS 2020 EfficientQA Competition: Systems, Analyses and Lessons Learned**. *Proceedings of Machine Learning Research (PMLR)*, 2021. [[Paper](#)] [[Project](#)]
- [14] **Sohee Yang** and Minjoon Seo. **Designing a Minimal Retrieve-and-Read System for Open-Domain Question Answering**. In *NAACL*, 2021. [[Paper](#)] [[Code](#)] [[Poster](#)] [[Slides](#)] [[Video](#)]
- [15] **Sohee Yang** and Minjoon Seo. **Is Retriever Merely an Approximator of Reader?**. In *Spa-NLP Workshop at ACL 2022*, 2020. [[Paper](#)] [[Poster](#)] [[Slides](#)] [[Video](#)] [[Model](#)]
- [16] Jung-Woo Ha\*, Kihyun Nam\*, Jingu Kang, Sang-Woo Lee, **Sohee Yang**, Hyunhoon Jung, Eunmi Kim, Hyeji Kim, Soojin Kim, Hyun Ah Kim, Kyoungtae Doh, Chan Kyu Lee, Nako Sung, Sunghun

Kim. ClovaCall: Korean Goal-Oriented Dialog Speech Corpus for Automatic Speech Recognition of Contact Centers. In *INTERSPEECH*, 2020. [Paper] [Code]

[17] Sungdong Kim, Sohee Yang, Gyuwan Kim, Sang-Woo Lee. Efficient Dialogue State Tracking by Selectively Overwriting Memory. In *ACL*, 2020. [Paper] [Code]

[18] Sang-Woo Lee, Tong Gao, Sohee Yang, Jaejun Yoo, Jung-Woo Ha. Large-Scale Answerer in Questioner’s Mind for Visual Dialog Question Generation. In *ICLR*, 2019. [Paper] [Code] [Poster] [Slides]

## HONORS, AWARDS & SCHOLARSHIPS

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### Honors & Awards

- 1st Place, EfficientQA Competition 500MB Track Human Eval, NeurIPS 2020 Dec 2020
- Gyeongsangbuk-do Province Governor’s Commendation, HGU Feb 2018
- *Summa Cum Laude*, HGU Feb 2018
- 1st Place (Grand Prize), Senior Capstone Design Competition, HGU Dec 2017

### Scholarships

- Full tuition funded by Google DeepMind at UCL Mar 2023 - Present
- 92% of tuition covered by the school at KAIST Mar 2021 - Feb 2023
- Full tuition covered by the school and Korean Government at HGU (merit-based) Mar 2014 - Feb 2018
  - National Science and Engineering Scholarship (Government of South Korea)
  - Merit Scholarship for Academic Excellence (top 1% for 4 times)
  - Entrance Scholarship (top 5%)

## TALKS

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**Interpretability Research on Large Language Models** Nov 2024

- Invited Lecture, CS475: ML for NLP, KAIST, South Korea (Remote)

**Latent Deductive Reasoning of Large Language Models** Apr 2024

- The University of Sheffield, Sheffield, United Kingdom

**EfficientQA & Designing a Minimal Retrieve-and-Read System for ODQA** Dec 2020

- Tech Talk, Upstage AI, South Korea (Remote)

**DUET (AiCall) and Potential Needs in Dialog** May 2019

- NAVER LABS Europe × Clova AI Workshop, NAVER LABS Europe, Grenoble, France

**Large-Scale Answerer in Questioner’s Mind for Visual Dialog Question Generation** May 2019

- Naver Expo Lunch Talk, ICLR 2019, New Orleans, United States

**Deep Learning-based Dialogue System** Aug 2018

- Summer School, Deep Learning Society: Deepest, Seoul, South Korea

## SERVICES

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### Reviewer

- NeurIPS Workshop 2024, EMNLP 2024 (ARR June), ACL Workshops 2024, ICML Workshop 2024, ACL 2024 (ARR Feb), ICLR 2023, ACL Workshop 2022

## Secondary Reviewer

- ICML 2019, ICLR 2019

## STUDENT ASSOCIATIONS

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|--|---------------------|
| <b>Deep Learning Society: Deepest</b><br><i>Seoul National University</i>    | Jul 2018 - Feb 2021 |
| · Director   | Feb 2019 - Jun 2019 |
| <b>S/W Development Club: Seulgijjagi</b><br><i>Handong Global University</i> | Feb 2014 - Feb 2018 |
| · President  | Feb 2016 - Jun 2016 |
| · President  | Feb 2015 - Jun 2015 |

## TEACHING EXPERIENCE

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- |   |                     |
|---|---------------------|
| <b>Teaching Assistant</b><br><i>Handong Global University</i> |                     |
| · C Programming   | Aug 2017 - Dec 2017 |
| · Operating Systems   | Feb 2017 - Jun 2017 |
| · Computer Architecture and Organization                      | Aug 2016 - Dec 2016 |
| · Logic Design  | Feb 2016 - Jun 2016 |
| · C Programming   | Dec 2015 - Jan 2016 |

## LANGUAGE PROFICIENCY

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- Korean - Native Level Fluency
- English - High Level Fluency
  - IELTS Academic Overall 8.0 (taken on 31 Dec 2022)
  - TOEFL iBT 109 (taken on 02 Sep 2018)
  - GRE Writing 4.5 (taken on 19 Nov 2017)