

Junmo Kang

Ph.D. Student at Georgia Tech

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RESEARCH INTERESTS

Natural Language Processing

The long-term goal of my research is to enhance the *practicality* of NLP systems (e.g., question answering) so that they can be widely used *in real-world scenarios*. In particular, my research focuses on *i) how to make NLP models cheaper (i.e., efficient) in terms of data and computational resources*, and *ii) how to build NLP models that are robust to unseen cases in the wild*.

EDUCATION

Georgia Institute of Technology

Ph.D. in Computer Science

Atlanta, GA, USA

Aug. 2022 - Present

- Research Assistant at NLP X Lab (Advisors: Dr. Alan Ritter, Dr. Wei Xu)

Korea Advanced Institute of Science and Technology (KAIST)

M.S. in Computer Science

Daejeon, Republic of Korea

Feb. 2019 - Feb. 2021

- Research Assistant at IR&NLP Lab (Advisor: Dr. Sung-Hyon Myaeng)
- Thesis committee: Dr. Sung-Hyong Myaeng, Dr. Hojin Choi, Dr. Alice Oh
- GPA: 4.03 / 4.30

Chungnam National University

B.E. in Computer Science & Engineering

Daejeon, Republic of Korea

Mar. 2012 - Feb. 2019

- Summa Cum Laude
- GPA: 4.30 / 4.50 (Rank: 1/125 in CSE, Major GPA: 4.41)

PUBLICATIONS

- [1] **Graph-Induced Transformers for Efficient Multi-Hop Question Answering** EMNLP, 2022
Giwon Hong, Jeonghwan Kim, **Junmo Kang**, Sung-Hyon Myaeng
- [2] **Exploiting Numerical-Contextual Knowledge to Improve Numerical Reasoning in Question Answering** Findings of NAACL, 2022
Jeonghwan Kim, **Junmo Kang**, Giwon Hong, Kyung-min Kim, Sung-Hyon Myaeng [pdf]
- [3] **Ultra-High Dimensional Sparse Representations with Binarization for Efficient Text Retrieval** EMNLP, 2021
Kyoung-Rok Jang, **Junmo Kang**, Giwon Hong, Sung-Hyon Myaeng, Joohee Park, Taewon Yoon, Heecheol Seo [pdf]
- [4] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation** EMNLP, 2021
Junmo Kang, Jeonghwan Kim, Suwon Shin, Sung-Hyon Myaeng [pdf]
- [5] **Have You Seen That Number? Investigating Extrapolation in Question Answering Models** EMNLP, 2021
Jeonghwan Kim, Giwon Hong, Kyung-min Kim, **Junmo Kang**, Sung-Hyon Myaeng [pdf]
- [6] **Can You Distinguish Truthful from Fake Reviews? User Analysis and Assistance Tool for Fake Review Detection** HCI+NLP@EACL, 2021
Jeonghwan Kim*, **Junmo Kang***, Suwon Shin*, Sung-Hyon Myaeng [pdf]

- [7] **Regularization of Distinct Strategies for Unsupervised Question Generation** Findings of EMNLP, 2020
Junmo Kang*, Giwon Hong*, Haritz Puerto San Roman*, Sung-Hyon Myaeng [pdf]
- [8] **Handling Anomalies of Synthetic Questions in Unsupervised Question Answering** COLING, 2020
Giwon Hong*, Junmo Kang*, Doyeon Lim*, Sung-Hyon Myaeng [pdf]
- [9] **Let Me Know What to Ask: Interrogative-Word-Aware Question Generation** MRQA@EMNLP, 2019
Junmo Kang*, Haritz Puerto San Roman*, Sung-Hyon Myaeng [pdf]
- * indicates equal contribution.

EXPERIENCES

- Georgia Tech NLP X Lab** Aug. 2022 - Present
Graduate Research Assistant
- Working on cost-efficiency analysis of small and large language models.
- KAIST IR&NLP Lab** Mar. 2021 - Jul. 2022
Research Associate
- Worked on efficient methods for multi-hop QA (accepted to EMNLP 2022) [1].
- KAIST IR&NLP Lab** Feb. 2019 - Feb. 2021
Graduate Research Assistant
- Worked on question generation and unsupervised question answering for data-efficiency [7,8,9].
 - Presented sample-efficient and robust number representations for question answering [5,2].
 - Proposed a novel generation model that takes into account the inter-dependency of tags while alleviating the order sensitivity [4].
 - Proposed a novel sparse representation model for passage retrieval that can take advantage of an efficient inverted index and symbolic IR techniques [3].
- Poten Brothers** Mar. 2017 - Feb. 2018
Co-founder
- Developed an online interview-based survey platform that induces potential customers to provide start-ups with profound and fresh feedback on their early-stage products.
- Republic of Korea Army** Apr. 2013 - Jan. 2015
Honorably discharged as Sergeant
- Compulsory military service.

HONORS & AWARDS

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|---|------|
| Graduated with Highest Honor in CSE, Chungnam National University | 2019 |
| Grand Prize, Business ICT Competition | 2018 |
| Excellence Award, Startup Competition | 2018 |
| Finalist (Top 20), NAVER AI Hackathon | 2018 |
| Grand Prize, Daejeon Startup School | 2017 |
| Excellence Award, CNU Creative Works Competition | 2017 |
| Best Excellence Award, C.N.U.Vill | 2017 |
| Best Excellence Award, Startup Picnic | 2016 |
| Finalist (Top 2), Microsoft Imagine Cup Korea | 2016 |