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 ***how to make NLP models cheaper (i.e., efficient) in terms of data and computational resources***.

EDUCATION

Georgia Institute of Technology — Atlanta, GA, USA
Ph.D. in Computer Science — Aug. 2022 - Present
- Research Assistant at NLP X Lab (Advisors: Dr. Alan Ritter, Dr. Wei Xu)

Korea Advanced Institute of Science and Technology (KAIST) — Daejeon, Republic of Korea
M.S. in Computer Science — 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 — Daejeon, Republic of Korea
B.E. in Computer Science & Engineering — 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

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