# Junmo **Kang**

Ph.D. Student at Georgia Tech

junmo.kang@gatech.edu | jm-kang.github.io

## RESEARCH INTERESTS

**Natural Language Processing**

Question Answering, Information Retrieval, Efficient NLP, Robustness

## EDUCATION

**Georgia Institute of Technology** — Atlanta, U.S.

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, 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, 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] **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]

[2] **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]

[3] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation** — EMNLP, 2021

**Junmo Kang**, Jeonghwan Kim, Suwon Shin, Sung-Hyon Myaeng [pdf]

[4] **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]

[5] **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]

[6] **Regularization of Distinct Strategies for Unsupervised Question Generation** — Findings of EMNLP, 2020

**Junmo Kang***, Giwon Hong*, Haritz Puerto San Roman*, Sung-Hyon Myaeng [pdf]

[7] **Handling Anomalies of Synthetic Questions in Unsupervised Question Answering** — COLING, 2020

Giwon Hong*, **Junmo Kang***, Doyeon Lim*, Sung-Hyon Myaeng [pdf]

[8] **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

**KAIST IR&NLP Lab** Mar. 2021 - Jul. 2022

*Research Associate*

- Working on efficient methods for multi-hop QA (submitted to EMNLP 2022).

**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.

## PROJECTS

**Cost-Efficiency Analysis of Supervised and In-Context Learning for NLP** Aug. 2022 - Present

*As a research assistant at Georgia Tech*

- Studying which is more efficient practice for deployment: data annotation or in-context few-shot learning.

**Neural Information Retrieval** Mar. 2021 - Dec. 2021

*Funded by Samsung SDS (KAIST - Samsung SDS AI research)*

- Worked on an efficient open-domain question answering system based on neural sparse representations.

**Deep Matching for Efficient Search** Nov. 2019 - Oct. 2020

*Funded by NAVER*

- Proposed a novel sparse representation model for passage retrieval that can take advantage of an efficient inverted index and symbolic IR techniques [2].

**Exobrain** Mar. 2019 - Jul. 2022

*Funded by Korean Government (Ministry of Science and ICT)*

- Developed an ensemble model that combines graph-based QA model and reading comprehension QA model (1st rank in the leaderboard of TriviaQA Wikipedia at the date of 08/10/19).
- Worked on improving question generation and unsupervised question answering [6,7,8].
- Presented sample-efficient and robust number representations for question answering [4].

**Machine Learning for Context Association and Smart Interaction Suggestion** Mar. 2019 - Mar. 2021

*Funded by Korean Government (Ministry of Science and ICT)*

- Worked as a project manager, with the focus on Instagram tag recommendation considering multi-modal contexts (image, location, time, text).
- Proposed a novel generation model that takes into account the inter-dependency of tags while alleviating the order sensitivity [3].

## 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