

# Junmo Kang

Researcher at KAIST IR&NLP Lab

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## RESEARCH INTERESTS

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### Natural Language Processing, Machine Learning

Question Answering, Representation Learning, Generative Model, Information Retrieval

## EDUCATION

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### Korea Advanced Institute of Science and Technology (KAIST)

Daejeon, Korea

M.S. in School of Computing

Mar. 2019 - Feb. 2021

- Advisor: Sung-Hyon Myaeng
- Thesis committee: Sung-Hyong Myaeng, Hojin Choi, Alice Oh
- GPA: 4.03 / 4.30

### Chungnam National University

Daejeon, Korea

B.S. in Computer Science & Engineering

Mar. 2012 - Feb. 2019

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

## PUBLICATIONS

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- [1] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation** EMNLP, 2021  
Junmo Kang, Jeonghwan Kim, Suwon Shin, Sung-Hyon Myaeng
- [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
- [3] **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
- [4] **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]
- [5] **Handling Anomalies of Synthetic Questions in Unsupervised Question Answering** COLING, 2020  
Giwon Hong\*, Junmo Kang\*, Doyeon Lim\*, 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] **Let Me Know What to Ask: Interrogative-Word-Aware Question Generation** MRQA@EMNLP, 2019  
Junmo Kang\*, Haritz Puerto San Roman\*, Sung-Hyon Myaeng [pdf]

## EXPERIENCES

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### KAIST IR&NLP Lab

Mar. 2021 - Present

Researcher

- Working on QA and IR.

**Poten Brothers**

Mar. 2017 - Feb. 2018

**Co-founder**

- Developed a service that connects potential customers with start-ups to provide feedback on their early-stage products.

**Republic of Korea Army**

Apr. 2013 - Jan. 2015

**Honorably discharged as Sergeant**

- Compulsory military service.

## PROJECTS

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**Neural Information Retrieval**

Mar. 2021 - Present

**Supporter: Samsung SDS (KAIST - Samsung SDS joint research)**

- Developing an efficient open-domain question answering system based on latent sparse representations.
- Developing an ensemble model that exploits the distinct effects of dense and sparse models.

**Deep Matching for Efficient Search**

Nov. 2019 - Oct. 2020

**Supporter: NAVER**

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

**Exobrain**

Mar. 2019 - Present

**Supporter: Korean Government**

- 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).
- Working on improving multi-hop QA using graph neural networks (HotpotQA).

**Machine Learning for Context Association and Smart Interaction Suggestion**

Mar. 2019 - Mar. 2021

**Supporter: Korean Government**

- Worked on Instagram tag recommendation considering multi-modal contexts (image, location, time, text).
- Built a baseline model that maps input contexts and tags into the joint embedding space, and proposed a novel generation model that takes into account the inter-dependency of tags while alleviating the order sensitivity.

## 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