# Junmo **Kang**

Research Associate at KAIST IR&NLP Lab

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## RESEARCH INTERESTS

**Natural Language Processing, Machine Learning**
Question Answering, Information Retrieval, Efficiency, Robustness

## EDUCATION

**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, Major GPA: 4.41)

## PUBLICATIONS

**\*** indicates equal contribution.

[1] **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

[2] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation**    EMNLP, 2021
**Junmo Kang**, Jeonghwan Kim, Suwon Shin, Sung-Hyon Myaeng

[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] **Maximizing Efficiency of Language Model Pre-training for Learning Representation**    KSC, 2020
**Junmo Kang\***, Suwon Shin\*, Jeonghwan Kim\*, Jaeyoung Jo\*, 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]

# EXPERIENCES

**KAIST IR&NLP Lab**                                                            Mar. 2021 - Present
*Research Associate*
  • Working on QA and IR.

**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

**Neural Information Retrieval**                                                 Mar. 2021 - Present
*Funded by Samsung SDS (KAIST - Samsung SDS AI research)*
  • Developing 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 [1].

**Exobrain**                                                                    Mar. 2019 - Present
*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 [3].

**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 [2].

# 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 |