

Donghyeon Kim

Ph.D. in Computer Science and Engineering
Senior Research Engineer at Hyundai Motor Company

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RESEARCH INTERESTS

Language Modeling, Question Answering, Bioinformatics

EDUCATION

Korea University, Seoul March 2011 - Feb 2020
Ph.D. in Computer Science and Engineering (On leave: startups, Oct 2014 - Mar 2018)
Advisor: Prof. Jaewoo Kang

Korea University, Seoul Mar 2003 - Feb 2011
B.S. in Computer Science Education (On leave: military service, Aug 2006 - Jul 2008)
Advisor: Prof. Seongbin Park

WORK EXPERIENCE

Hyundai Motor Company Dec 2019 - Present
Senior Research Engineer Seoul, Korea

- Hyperscale AI: Transformer-based billion-scale language models
- Question Answering: Car manual passage retrieval & reranking, reading comprehension
- Machine Translation: H-Translator: ko-zh

Konolabs, Inc. Apr 2016 - Mar 2018 (Dispatch from Korea Univ. Apr 2016 - Dec 2016)
Data Scientist & Software Engineer Seoul, Korea

- Event start time prediction by learning calendar event titles, week contexts and user preferences
- Scheduling related sentence classification
- Email bot trigger, architecture design & implementation

Opinion8, Inc. Oct 2014 - Apr 2016 (Dispatch from Korea Univ.)
CTO & Co-founder Seoul, Korea

- Opinion, location, and time based entity (restaurant, attraction, hotel) search engine implementation
- Sentiment analysis using dependency trees and part-of-speech tags

SELECTED PUBLICATIONS

BERN2: an advanced neural biomedical named entity recognition and normalization tool

Mujeen Sung, Minbyul Jeong, Yonghwa Choi, **Donghyeon Kim**, Jinhyuk Lee and Jaewoo Kang
Bioinformatics, Aug 2022, <http://bern2.korea.ac.kr>

Relevance Similarity Scorer and Entity Guided Reranking for Knowledge Grounded Dialog System

Hyunkyung Bae, Minwoo Lee, Ahhyeon Kim, Hwanhee Lee, Cheongjae Lee, Cheoneum Park, **Donghyeon Kim**, Kyomin Jung
DSTC9 Workshop at AACL, Feb 2021

Transferability of Natural Language Inference to Biomedical Question Answering

Minbyul Jeong, Mujeen Sung, Gangwoo Kim, **Donghyeon Kim**, Wonjin Yoon, Jaehyo Yoo and Jaewoo Kang
BioASQ Lab Workshop at CLEF, Sep 2020, cited by 20+

Building a PubMed knowledge graph

Jian Xu, Sunkyu Kim, Min Song, Minbyul Jeong, **Donghyeon Kim**, Jaewoo Kang, Justin F. Rousseau, Xin Li, Weijia Xu, Vetle I. Torvik, Yi Bu, Chongyan Chen, Islam Akef Ebeid, Daifeng Li and Ying Ding
Scientific Data, Jun 2020, cited by 71+

Pre-trained Language Models for Biomedical Question Answering

Wonjin Yoon, Jinhyuk Lee, **Donghyeon Kim**, Minbyul Jeong and Jaewoo Kang
BioASQ Workshop at ECML PKDD, Sep 2019, cited by 59+

BioBERT: a pre-trained biomedical language representation model for biomedical text mining

Jinhyuk Lee[†], Wonjin Yoon[†], Sungdong Kim, **Donghyeon Kim**, Sunkyu Kim, Chan Ho So and Jaewoo Kang
Bioinformatics, Sep 2019, cited by 2681+

A Neural Named Entity Recognition and Multi-Type Normalization Tool for Biomedical Text Mining

Donghyeon Kim, Jinhyuk Lee, Chan Ho So, Hwisang Jeon, Minbyul Jeong, Yonghwa Choi, Wonjin Yoon, Mujeen Sung and Jaewoo Kang
IEEE Access, Jun 2019, cited by 81+, <https://bern.korea.ac.kr>

Learning User Preferences and Understanding Calendar Contexts for Event Scheduling

Donghyeon Kim[†], Jinhyuk Lee[†], Donghee Choi, Jaehoon Choi and Jaewoo Kang
CIKM (full, oral), Oct 2018, cited by 5+

BEST: Next-Generation Biomedical Entity Search Tool for Knowledge Discovery from Biomedical Literature

Sunwon Lee[†], **Donghyeon Kim**[†], Kyubum Lee, Jaehoon Choi, Seongsoon Kim, Minji Jeon, Sangrak Lim, Donghee Choi, Sunkyu Kim, Aik-Choon Tan and Jaewoo Kang
PLoS One, Oct 2016, cited by 90+, <http://best.korea.ac.kr>

Smith Search: Opinion-Based Restaurant Search Engine

Jaehoon Choi, **Donghyeon Kim**, Donghee Choi, Sangrak Lim, Seongsoon Kim, Youngjae Choi and Jaewoo Kang
WWW (demo), May 2015, cited by 2+

Consento: A New Framework for Opinion Based Entity Search and Summarization

Jaehoon Choi, **Donghyeon Kim**, Seongsoon Kim, Junkyu Lee, Sunwon Lee and Jaewoo Kang
CIKM (short), Oct 2012, cited by 11+

DOMESTIC PUBLICATIONS

Efficient codebook expressions of word representations in language modeling

Byungjoo Kim, Yookyung Koh, Chan Ho So, **Donghyeon Kim** and Jaewoo Kang
Korea Computer Congress, Jun 2018

Utilizing Social Q&A Data for Decision Making

Jukyung Lee, Jaehoon Choi, **Donghyeon Kim**, Donghee Choi, Minhwan Yoo and Jaewoo Kang
The 42nd Annual Meeting and Winter Conference of KIISE, Dec 2015

AWARDS

Winner, biomedical semantic question answering (Task 8b, Phase B, Exact/ideal answers), BioASQ Challenge

Minbyul Jeong, Mujeen Sung, Gangwoo Kim, **Donghyeon Kim**, Wonjin Yoon, Jaehyo Yoo and Jaewoo Kang
Sep 2020

Winner, biomedical semantic question answering (Task 7b, Phase B, Exact answers), BioASQ Challenge

Wonjin Yoon, Jinhyuk Lee, **Donghyeon Kim**, Minbyul Jeong and Jaewoo Kang
Sep 2019

The grand prize, Start-up competition, Korea University

Jaehoon Choi, **Donghyeon Kim** and Donghee Choi
Jan 2015