Donghyeon Kim

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

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RESEARCH INTERESTS

Question Answering, Language Modeling, Information Retrieval, Machine Learning, Bioinformatics

EDUCATION

Korea University, Seoul
Ph.D. in Computer Science and Engineering
Advisor: Prof. Jaewoo Kang

March 2011 - Feb 2020
(On leave: startups, Oct 2014 - Mar 2018)

Korea University, Seoul
B.S. in Computer Science Education
Advisor: Prof. Seongbin Park

Mar 2003 - Feb 2011
(On leave: military service, Aug 2006 - Jul 2008)

EXPERIENCE

Hyundai Motor Company
Senior Research Engineer

Dec 2019 - Present
Seoul, Korea

· Question Answering
· Domain-specific Language Modeling

Konolabs, Inc.
Data Scientist & Software Engineer

Apr 2016 - Mar 2018 (Dispatch from Korea Univ. Apr 2016 - Dec 2016)
Seoul, Korea

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

Opinion8, Inc.
CTO & Co-founder

Oct 2014 - Apr 2016 (Dispatch from Korea Univ.)
Seoul, Korea

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

Republic of Korea Marine Corps
Computer, Signal Corpsman in the 1st division HQ

Aug 2006 - Jul 2008
Pohang, Korea

· Military service

PUBLICATIONS

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

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

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

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

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

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

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

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

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

BOSS: context-enhanced search for biomedical objects
Jaehoon Choi, **Donghyeon Kim**, Seongsoon Kim, Sunwon Lee, Kyubum Lee and Jaewoo Kang
BMC Medical Informatics and Decision Making, Apr 2012

Consento: A Consensus Search Engine for Answering Subjective Queries
Jaehoon Choi, **Donghyeon Kim**, Seongsoon Kim, Junkyu Lee, Sangrak Im, Sunwon Lee and Jaewoo Kang
WWW (poster), Apr 2012

BOSS: a biomedical object search system
Jaehoon Choi, **Donghyeon Kim**, Seongsoon Kim, Sunwon Lee, Kyubum Lee and Jaewoo Kang
DTMBIO (long), Oct 2011

[†]Equal contribution

DOMESTIC PUBLICATIONS

언어 모델링에서의 단어의 효율적인 코드북 표현 (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

의사결정 지원을 위한 소셜네트워크 서비스의 질의응답 데이터 활용 방안 (Utilizing Social Q&A Data for Decision Making)
Jukyoung Lee, Jaehoon Choi, **Donghyeon Kim**, Donghee Choi, Minhwan Yoo and Jaewoo Kang
The 42nd Annual Meeting and Winter Conference of KIISE, Dec 2015

소셜 빅데이터를 활용한 의사 결정 검색 기술 (Decision making search technology using social big data)
Jaehoon Choi, Donghee Choi, **Donghyeon Kim**, Seongsoon Kim, Sangrak Lim and Jaewoo Kang
Communications of KIISE, Jan 2014

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

PATENTS

Method, system and non-transitory computer-readable recording medium for providing predictions on calendar
Jaewoo Kang, **Donghyeon Kim**, Jinhyuk Lee and Jaehoon Choi
Application (pending), Korea: 10-2018-0070912, United States: US 2018 / 0174108 A1, Jun 2018

Method, system and non-transitory computer-readable recording medium for providing schedule-related advertisements
Yun Jeong Min, Jaehoon Choi, **Donghyeon Kim** and Jinhyuk Lee
Application (pending), Korea: 10-2018-0070921, United States: US 2018 / 0174191 A1, Jun 2018

SERVICE

WWW (2014, 2013), **CIKM** (2011), **ICWSM** (2014), **ICDE** (2014), **ICDM** (2019), **SIAM** (2011), **BIBM** (2018, 2012, 2011)
Secondary reviewer

PROJECTS

컨센서스 질의응답이 가능한 인공지능비서 시스템 개발 한국연구재단	Mar '18 - Dec '19
인공지능 기반 기업형 일정관리 서비스 상용화 중소벤처기업부	Nov '17 - Mar '18
소셜 빅데이터 기반 콘센서스검색 기술 개발 연구성과실용화진흥원	Dec '14 - Dec '16
문헌 및 실험 빅데이터 통합분석 및 탐색 시스템 개발 한국연구재단	Nov '14 - Oct '15
소셜빅데이터분석과 검색기술의 융합을 통한 차세대 컨센서스검색 플랫폼 개발 한국연구재단	Nov '14 - Oct '15
문서 분할 색인 및 콘센서스랭크 모델을 적용한 소셜미디어 의견기반 객체검색 시스템 개발 한국연구재단	May '12 - Apr '15
학술분야 객체검색시스템 개발 정보통신기술진흥센터	Oct '11 - Jun '12

모바일 사진 컨텐츠 분석을 통해 지능형 멀티미디어 SNS 기능을 극대화 하는 Insight Search Engine의 개발
Jun '11 - May '12
중소기업청

대용량 소셜 미디어의 sentiment 분석을 통한 인사이트 발굴 기술 개발   Mar '11 - Apr '12
한국연구재단

REFERENCE

Professor Jaewoo Kang
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