

Zae Myung Kim

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Education

University of Minnesota Twin Cities

PH.D. IN COMPUTER SCIENCE

- Advisor: Dongyeop Kang

Minneapolis, MN

Sept. 2022 - Present

KAIST (Korea Advanced Institute of Science and Technology)

M.S. IN COMPUTER SCIENCE

- Advisor: Ho-Jin Choi
- Thesis: "Classifying Travel-Related Intents in Textual Data Using Recurrent Neural Networks"

Daejeon, S.Korea

Sept. 2014 - Aug. 2016

Imperial College London

B.ENG. IN COMPUTER SCIENCE

- Group Project: "Intention Recognition in Ambient Homes"
- Individual Project: "Computing Fictitious Plays in Graph-Based Games"

London, UK

Oct. 2008 - Aug. 2011

Selected Publications

CONFERENCE PAPERS

Threads of Subtlety: Detecting Machine-Generated Texts Through Discourse Motifs

ZAE MYUNG KIM, KWANG HEE LEE, PRESTON ZHU, VIPUL RAHEJA, DONGYEOP KANG

Aug. 2024

ACL 2024

Benchmarking Cognitive Biases in Large Language Models as Evaluators

RYAN KOO, MINHWA LEE, VIPUL RAHEJA, JONG INN PARK, ZAE MYUNG KIM, DONGYEOP KANG

Aug. 2024

Findings of ACL 2024

Under the Surface: Tracking the Artifactuality of LLM-Generated Data

DEBARATI DAS^{*}, KARIN DE LANGIS^{*}, ANNA MARTIN-BOYLE^{*}, JAEHYUNG KIM^{*}, MINHWA LEE^{*}, ZAE MYUNG KIM^{*}, SHIRLEY ANUGRAH HAYATI, RISAKO OWAN, BIN HU, RITIK SACHIN PARKAR, RYAN KOO, JONG INN PARK, AAHAN TYAGI, LIBBY FERLAND, SANJALI ROY, VINCENT LIU, DONGYEOP KANG

Jan. 2024

Under review

Improving Iterative Text Revision by Learning Where To Edit From Other Revision Tasks

ZAE MYUNG KIM, WANYU DU, VIPUL RAHEJA, DHURUV KUMAR, DONGYEOP KANG

Dec. 2022

EMNLP 2022

Read, Revise, Repeat: A System Demonstration for Human-in-the-loop Iterative Text Revision

WANYU DU^{*}, ZAE MYUNG KIM^{*}, VIPUL RAHEJA, DHURUV KUMAR, DONGYEOP KANG [BEST PAPER]

May 2022

In2Writing at ACL 2022

Understanding Iterative Revision from Human-Written Text

WANYU DU, VIPUL RAHEJA, DHURUV KUMAR, ZAE MYUNG KIM, MELISSA LOPEZ, DONGYEOP KANG

May 2022

ACL 2022

Visualizing Cross-Lingual Discourse Relations in Multilingual TED Corpora

ZAE MYUNG KIM, VASSILINA NIKOULINA, DONGYEOP KANG, DIDIER SCHWAB AND LAURENT BESACIER

Nov. 2021

CODI 2021 at EMNLP 2021

Do Multilingual Neural Machine Translation Models Contain Language Pair Specific Attention Heads?

ZAE MYUNG KIM, LAURENT BESACIER, VASSILINA NIKOULINA, DIDIER SCHWAB

Aug. 2021

Findings of ACL 2021

A Multilingual Neural Machine Translation Model for Biomedical Data

ALEXANDRE BÉRARD, ZAE MYUNG KIM, VASSILINA NIKOULINA, EUNJEONG PARK, MATTHIAS GALLÉ

Dec. 2020

NLP-COVID19 at EMNLP 2020

PATQUEST: Papago Translation Quality Estimation

YUJIN BAEK^{*}, ZAE MYUNG KIM^{*}, JIHYUNG MOON, HYUNJOONG KIM, EUNJEONG PARK

Nov. 2020

WMT 2020

An adaptive vocabulary learning application through modeling learner's linguistic proficiency and interests

ZAE MYUNG KIM, SUIN KIM, ALICE OH, HO-JIN CHOI

Feb. 2017

Int'l Conf. on Big Data and Smart Computing

TIMEX3 and Event Extraction Using Recurrent Neural Networks

ZAE MYUNG KIM, YOUNG-SEOB JEONG, AND HO-JIN CHOI

Jan. 2016

Int'l Conf. on Big Data and Smart Computing

An approach to spam comment detection through domain-independent features

JONG MYOUNG KIM, ZAE MYUNG KIM, AND KWANGJO KIM

Jan. 2016

Int'l Conf. on Big Data and Smart Computing

Temporal Information Extraction from Korean Texts

YOUNG-SEOB JEONG, ZAE MYUNG KIM, HYUN-WOO DO, CHAE-GYUN LIM, AND HO-JIN CHOI

Jul. 2015

CoNLL 2015

JOURNAL PAPERS

Modeling Long-Term Human Activeness Using Recurrent Neural Networks for Biometric Data

ZAE MYUNG KIM, HYUNGRAI OH, HAN-GYU KIM, CHAE-GYUN LIM, KYO-JOONG OH, AND HO-JIN CHOI

May 2017
BMC Med Inform Decis Mak [SCIE, IF:2.042]

Investigating the Impact of Possession-Way of a Smartphone on Action Recognition

ZAE MYUNG KIM*, YOUNG-SEOB JEONG*, KYO-JOONG OH, HYUNG-RAI OH, YOUSSEF IRAQI, AND HO-JIN CHOI

Jun. 2016
Sensors, 16(6) [SCIE, IF:2.437]

Awards & Accomplishments

2022	Awarded , Best Paper, In2Writing workshop at ACL 2022	Dublin, Ireland
2022	Awarded , 3M Science and Technology Fellowships	Minneapolis, MN
2018	Runner-Up , Elice Data Science Challenge (3rd place out of 300 participants)	Seongnam, S.Korea
2016	Awarded , Outstanding Teaching Assistant Award, 2016 Data Science Workshop & Challenge at Elice	Geumsan, S.Korea
2016	Awarded , Outstanding Graduate Teaching Assistant Award, School of Computing, KAIST	Daejeon, S.Korea
2012	Runner-Up , Republic of Korea Army Oratorical Contest, ROK Army	Incheon, S.Korea
2011	Winning Team , Robotics Localization Challenge, Imperial College London	London, UK
2009	Winning Team , The Deutsche Bank Prize for Topics in A.I. Group Project, Imperial College London	London, UK
2008	Participation , Northwestern European Regional Programming Contest, ACM-ICPC	Utrecht, NL
2008	Bronze Medal , Royal College of Science Union Science Challenge (<i>a literary contest</i>)	London, UK

Work Experience

Salesforce AI Research

RESEARCH INTERN

Palo Alto, CA
May - Sept. 2023

- Developed a large-scale realistic benchmarking system for scientific paper retrieval task.
- Developed a co-writing system with large language models in the scientific paper writing domain.

Grammarly

PHD INTERN

Remote Work
Apr. - Jul. 2022

- Developed human-in-the-loop iterative text revision system.
- Developed span-based text revision models with data augmentation.

NAVER LABS Europe

RESEARCHER

Meylan, France
Oct. 2020 - Feb. 2022

- Researched on discovering language-specific representation of multilingual NMT models.
- Researched cross-lingual discourse analysis and its application to document-level NMT.

Papago, NAVER Corp.

RESEARCHER

Seongnam, S.Korea
Mar. 2017 - Sept. 2020

- Developed machine translation (MT) service for Thai-Korean and German-Korean language pairs.
- Developed utility programs for MT, such as sentence segmenter, corpus preprocessor, corpus aligner/crawler, etc.
- Developed website translation service based on NMT models, utilizing encoder-decoder attentions and heuristics.
- Participated in Quality Estimation shared task at WMT20; came 4th for sentence-level, 1st for document-level tasks.

Knowledge Engineering and Artificial Intelligence Lab, KAIST

RESEARCHER

Daejeon, S.Korea
Dec. 2016 - Feb. 2017

- Developed an adaptive vocabulary learning application that incorporates a learner's linguistic proficiency and topical interests.
- Developed a health-care application that suggests *Pokémon Go* events when a user's activeness is predicted to be low.

NAVER LABS Corp.

RESEARCH INTERN

Seongnam, S.Korea
Sept. - Nov. 2016

- Researched on conducting extended named entity recognition on Korean texts that recognizes hierarchical categories of an entity.

Samsung-KAIST Academic Initiatives

RESEARCH ASSISTANT

Daejeon, S.Korea
Apr. 2014 - Jul. 2016

- [1st Yr.] Investigated intent classification in textual data in the context of providing well-suited services in travel and tourism domain.
- [2nd Yr.] Researched long-term human activeness modeling and prediction for wellness services using recurrent neural networks.

Knowledge Engineering and Artificial Intelligence Lab, KAIST

RESEARCHER

Daejeon, S.Korea
Dec. 2013 - Sept. 2014

- Surveyed on plan and intention recognition.
- Researched on temporal information extraction task on both English and Korean texts.

International Peace Supporting Standby Force, Special Warfare Command, ROK Army

ARMY INTERPRETER & AVIATION IMAGE ANALYST

- Served as an army interpreter & translator during ROK-US combined training exercises.
- Acted as a 3D aviation image analyst and a squad leader.

Incheon, S.Korea

Jan. 2012 - Oct. 2013

Department of Mechatronics, Chungnam National University

RESEARCH INTERN

- Designed and implemented a stair-walking robot using LEGO Mindstorms.
- Helped out with hosting Robotics Camp for primary school students.

Daejeon, S.Korea

Jul. - Aug. 2008

Teaching Experience

Natural Language Processing (CSCI 5541)

TEACHING ASSISTANT, GUEST LECTURER

- Grading assignments, mentoring group term projects, holding office hours.
- [Nov. 21, 2023; Apr. 2, 2024] Gave a lecture on instruction tuning and augmented language models.

Minneapolis, MN

Sep.-Dec. 2023, Feb.-Apr. 2024

Elice DX (Digital Transformation) Training at Samsung Electronics

LECTURER

- Ran a data science lab session for corporate executives on predicting wafers with defects from tabular data.
- Taught an intensive introductory machine learning class to new employees (lectures and lab sessions).

Dongtan, S.Korea; Virtual

Sep. 10, 22 - 25, 2022

Advanced Language Processing Winter School (ALPS) 2022

TEACHING ASSISTANT

- Participated in writing programming exercises on controllable NMT for Prof. Graham Neubig's lab. session.
- Helped out with the students' technical questions about the exercises.

Virtual

Jan. 2022

Academic-Industrial Collaboration Project, Chungbuk National University

GROUP MENTOR

- Mentored three groups of undergraduate students on their group projects.
- The project topics included making use of public APIs, pre-trained language models, and training models for store sign classification.

Virtual

Oct. - Nov. 2021

Advanced Language Processing Winter School (ALPS) 2021

TEACHING ASSISTANT

- Participated in writing programming exercises on multilingual NMT for Prof. Kyunghyun Cho's lab. session.
- Helped out with the students' technical questions about the exercises.

Virtual

Dec. 2020 - Jan. 2021

Elice AI & Data Science Course, Daejeon Creative Economy Innovation Center

TEACHING ASSISTANT

- Wrote five programming exercises every week for the government-funded data science course.
- [Dec. 26-27, 2016] Participated as a T/A in the data science workshop & challenge—our team came second in the challenge.

Daejeon, S.Korea

Oct. 2016 - Apr. 2017

Introduction to A.I.(CS470), School of Computing, KAIST

TEACHING ASSISTANT & GUEST SPEAKER

- Held office hours, designed and graded homeworks and programming assignments.
- [Sept. 2, 2015] As a guest speaker, presented my research work on extraction of travel-related intents from textual review data.

Daejeon, S.Korea

Sept. - Dec. 2015

Machine Learning Summer Camp 2015 (Online), School of Computing, KAIST

TEACHING ASSISTANT

- Managed three discussion groups, helping out with the weekly tasks.

Daejeon, S.Korea

Aug. 3 - 28, 2015

Programming Practice(CS109), School of Computing, KAIST

TEACHING ASSISTANT

- Helped out freshers with programming practical sessions taught in Scala language.

Daejeon, S.Korea

Mar. - Jun. 2015

Talks

Seminar talk at Dept. of Computer Engineering, Chungbuk National University

SPEAKER

- Talked about my recent work on iterative text revision, machine translation, and discourse relations.

Virtual

Jul. 28, 2022

Colloquium talk at Graduate School of Software, KAIST

SPEAKER

- Talked about a research topic on "Cross-Lingual Discourse Analysis and Its Application".

Virtual

Dec. 2, 2021

Invited lectures at a start-up company, Rye & Catchers

Seoul, S.Korea

SPEAKER

Aug. - Sept. 2021

- Gave a series of three seminars on recent trends on NLP and a few selected topics of the company's interests.
- Designed and provided three lab. sessions on practical NLP techniques.

DEVIEW 2018: "Papago Internals: Model Analysis and Development with Applied Technology"

Seoul, S.Korea

SPEAKER

Oct. 12, 2018

- Talked about developing a website translation service at Papago, highlighting research issues and technical difficulties.

Invited talk at a start-up company, Rye & Catchers

Seoul, S.Korea

GUEST SPEAKER

Nov. 11, 2016

- Talked about how textual data can be processed and utilized by *Bibly*, the company's book recommendation service.

Two invited lectures at the Dept. of Humanities, Chonbuk National University

Jeonju, S.Korea

GUEST LECTURER

May 27 and Jun. 3, 2016

- Talked about IT and its role in the performing arts in East Asia for BA students at the Department of Humanities.

Patent

Terminal, server and event suggesting methods thereof

Jul. 2019

HYUNGRAI OH, HO-JIN CHOI, ZAE MYUNG KIM, KYO-JOONG OH, CHAE-GYUN LIM

US Patent US10353975B2

Academic Services

Jun. 2024 **Reviewer**, NAACL 2024

Mexico City, Mexico

Feb. 2024 **Program Committee**, The 7th International Workshop on Dialog Systems

Bangkok, Thailand

Feb. 2024 **Program Committee**, The 38th Annual AAAI Conference on Artificial Intelligence

Vancouver, Canada

Jan. 2024 **Reviewer**, Knowledge-Based Systems, Elsevier

Journal

Dec. 2023 **Reviewer**, EMNLP 2023

Singapore

Jan. 2023 **Program Committee**, The 6th International Workshop on Dialog Systems

Jeju, S.Korea

Jan. 2022 **Program Committee**, The 5th International Workshop on Dialog Systems

Virtual

Jan. 2021 **Program Committee**, The 4th International Workshop on Dialog Systems

Virtual

Dec. 2020 **Reviewer**, NLP-COVID19 at EMNLP 2020

Virtual

Mar. 2020 **Reviewer**, IEEE Access

Virtual

Feb. 2019 **Program Committee**, The 2nd International Workshop on Dialog Systems

Kyoto, Japan

Skills

Programming Python, Java, JavaScript, C++14

ML TensorFlow, PyTorch, ONNX, Kubeflow

Web Vue, React, HTML5, Flask, Streamlit, REST API

DevOps SQLite, MongoDB, AWS, Docker, Kubernetes, Jenkins

Languages Korean (Native), English (Proficient), French (Novice)