

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

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

ZAE MYUNG KIM, WANYU DU, VIPUL RAHEJA, DHRUV 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, DHRUV KUMAR, DONGYEOP KANG [BEST PAPER]

May 2022

In2Writing at ACL 2022

Understanding Iterative Revision from Human-Written Text

WANYU DU, VIPUL RAHEJA, DHRUV 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

Grammarly

Remote Work

PHD INTERN

Apr. - Jul. 2022

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

NAVER LABS Europe

Meylan, France

RESEARCHER

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.

Seongnam, S.Korea

RESEARCHER

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

Daejeon, S.Korea

RESEARCHER

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.

Seongnam, S.Korea

RESEARCH INTERN

Sept. - Nov. 2016

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

Samsung-KAIST Academic Initiatives

Daejeon, S.Korea

RESEARCH ASSISTANT

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

Daejeon, S.Korea

RESEARCHER

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

Incheon, S.Korea

ARMY INTERPRETER & AVIATION IMAGE ANALYST

Jan. 2012 - Oct. 2013

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

Department of Mechatronics, Chungnam National University

Daejeon, S.Korea

RESEARCH INTERN

Jul. - Aug. 2008

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

Teaching Experience

Elice DX (Digital Transformation) Training at Samsung Electronics

Dongtan, S.Korea; Virtual

LECTURER

Sep. 10, 22 - 25, 2022

- 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).

Advanced Language Processing Winter School (ALPS) 2022

Virtual

TEACHING ASSISTANT

Jan. 2022

- 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.

Academic-Industrial Collaboration Project, Chungbuk National University

Virtual

GROUP MENTOR

Oct. 2021 - Nov. 2021

- 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.

Advanced Language Processing Winter School (ALPS) 2021

Virtual

TEACHING ASSISTANT

Dec. 2020 - Jan. 2021

- 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.

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

Daejeon, S.Korea

TEACHING ASSISTANT

Oct. 2016 - Apr. 2017

- 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.

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

Daejeon, S.Korea

TEACHING ASSISTANT & GUEST SPEAKER

Sept. - Dec. 2015

- 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.

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

Daejeon, S.Korea

TEACHING ASSISTANT

Aug. 3 - 28, 2015

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

Programming Practice(CS109), School of Computing, KAIST

Daejeon, S.Korea

TEACHING ASSISTANT

Mar. - Jun. 2015

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

Talks

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

Virtual

SPEAKER

Jul. 28, 2022

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

Colloquium talk at Graduate School of Software, KAIST

Virtual

SPEAKER

Dec. 2, 2021

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

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

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

Jul. 2019

US Patent US10353975B2

Academic Services

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

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)