Zae Myung **Kim**

200 Union St SE, Minneapolis, MN 55455, USA

✉ zaemyung@gmail.com | 🏠 zaemyung.github.io | 🐙 zaemyung | in zaemyung | 🎓 Google Scholar

Education

University of Minnesota Twin Cities   *Minneapolis, MN*

PH.D. IN COMPUTER SCIENCE   *Sept. 2022 - Present*

- Advisor: Dongyeop Kang

KAIST (Korea Advanced Institute of Science and Technology)   *Daejeon, S.Korea*

M.S. IN COMPUTER SCIENCE   *Sept. 2014 - Aug. 2016*

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

Imperial College London   *London, UK*

B.ENG. IN COMPUTER SCIENCE   *Oct. 2008 - Aug. 2011*

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

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.

Selected Publications

CONFERENCE PAPERS

Read, Revise, Repeat: A System Demonstration for Human-in-the-loop Iterative Text Revision *May 2022*
WANYU DU[*], ZAE MYUNG KIM[*], VIPUL RAHEJA, DHRUV KUMAR, DONGYEOP KANG [BEST PAPER] *In2Writing at ACL 2022*

Understanding Iterative Revision from Human-Written Text *May 2022*
WANYU DU, VIPUL RAHEJA, DHRUV KUMAR, ZAE MYUNG KIM, MELISSA LOPEZ, DONGYEOP KANG *ACL 2022*

Visualizing Cross-Lingual Discourse Relations in Multilingual TED Corpora *Nov. 2021*
ZAE MYUNG KIM, VASSILINA NIKOULINA, DONGYEOP KANG, DIDIER SCHWAB AND LAURENT BESACIER *CODI 2021 at EMNLP 2021*

Do Multilingual Neural Machine Translation Models Contain Language Pair Specific Attention Heads? *Aug. 2021*
ZAE MYUNG KIM, LAURENT BESACIER, VASSILINA NIKOULINA, DIDIER SCHWAB *Findings of ACL 2021*

A Multilingual Neural Machine Translation Model for Biomedical Data *Dec. 2020*
ALEXANDRE BÉRARD, ZAE MYUNG KIM, VASSILINA NIKOULINA, EUNJEONG PARK, MATTHIAS GALLÉ *NLP-COVID19 at EMNLP 2020*

PATQUEST: Papago Translation Quality Estimation *Nov. 2020*
YUJIN BAEK[*], ZAE MYUNG KIM[*], JIHYUNG MOON, HYUNJOONG KIM, EUNJEONG PARK *WMT 2020*

An adaptive vocabulary learning application through modeling learner's linguistic proficiency and interests *Feb. 2017*
ZAE MYUNG KIM, SUIN KIM, ALICE OH, HO-JIN CHOI *Int'l Conf. on Big Data and Smart Computing*

TIMEX3 and Event Extraction Using Recurrent Neural Networks *Jan. 2016*
ZAE MYUNG KIM, YOUNG-SEOB JEONG, AND HO-JIN CHOI *Int'l Conf. on Big Data and Smart Computing*

An approach to spam comment detection through domain-independent features *Jan. 2016*
JONG MYOUNG KIM, ZAE MYUNG KIM, AND KWANGJO KIM *Int'l Conf. on Big Data and Smart Computing*

Temporal Information Extraction from Korean Texts *Jul. 2015*
YOUNG-SEOB JEONG, ZAE MYUNG KIM, HYUN-WOO DO, CHAE-GYUN LIM, AND HO-JIN CHOI *CoNLL 2015*

JOURNAL PAPERS

Modeling Long-Term Human Activeness Using Recurrent Neural Networks for Biometric Data *May 2017*
ZAE MYUNG KIM, HYUNGRAI OH, HAN-GYU KIM, CHAE-GYUN LIM, KYO-JOONG OH, AND HO-JIN CHOI *BMC Med Inform Decis Mak [SCIE, IF:2.042]*

Investigating the Impact of Possession-Way of a Smartphone on Action Recognition *Jun. 2016*
ZAE MYUNG KIM[*], YOUNG-SEOB JEONG[*], KYO-JOONG OH, HYUNG-RAI OH, YOUSSEF IRAQI, AND HO-JIN CHOI *Sensors, 16(6) [SCIE, IF:2.437]*

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*

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 *(a literary contest)*	*London, UK*

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)