Michelle Kim, PhD

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EDUCATION

Michigan State University, East Lansing, MI, USA — Sep. 2020 - Present
Ph.D in Computer Science and Engineering

Seoul National University, Seoul, South Korea — Sep. 2017 - Jan. 2019
Completed 20 credits towards M.S./Ph.D in Computer Science and Engineering

Yonsei University, Seoul, South Korea — Mar. 2015 - Aug. 2017
B.S. in Computer Science

University of Pennsylvania, Philadelphia, PA, USA — Sep. 2009 - May 2013
Completed 74 credits towards B.A in Mathematics

TEACHING EXPERIENCE

Teaching Assistant, Introduction to Machine Learning Fall 2023 - Spring 2024
Department of Computer Science and Engineering, Michigan State University

- Contributed to the development of assignments, tests, and lecture segments
- Provided academic guidance to undergraduate students during office hours
- Developed policies and guidelines for AI tool (e.g., ChatGPT) usage

Teaching Assistant, Introduction to Data Mining Spring 2018
Department of Computer Science and Engineering, Seoul National University

- Provided academic support to undergraduate students during office hours
- Created assignments and tests for the course

Teaching Assistant, After-School Computer Science Program Summer 2014
Geumok Elementary School

- Introduced students to programming concepts using Scratch, a computer programming platform for children
- Fostered STEM interest and engagement in young learners through mentorship

English Tutor, Voluntary Program Spring 2006 - Fall 2007
Domestic Violence Shelter in Seoul, South Korea

- Mentored underprivileged students without access to learning resources
- Taught English, a mandatory second language course in Korea, and assisted a student in achieving a high TOEIC score

RESEARCH EXPERIENCE

Doctoral Reseracher Sep. 2020 - Present
Department of Computer Science and Engineering, Michigan State University

- Leveraged natural language processing (NLP) to promote fairness and equity in artificial intelligence (AI) and society
- Identified and mitigated biases and stereotypes in large language models (LLMs), healthcare, and political framing in news media

Intern Reseracher May. 2021 - Aug. 2022
MedKit Korea

- Investigated societal biases and stereotypes experienced by individuals with Autism Spectrum Disorder
- Explored the use of language models to create game scenarios that incorporate educational content and emotional intelligence

Doctoral Reseracher Sep. 2017 - Jan. 2019
Department of Computer Science and Engineering, Seoul National University

- Partnered with Samsung Electronics to research and develop energy-efficient technologies

FELOWSHIPS & GRANTS

Michigan State University Enrichment Fellowship 2020-2021, 2024-2025
Michigan State University The College of Social Science Small Grant 2024
Samsung Lee Kun-Hee Scholarship 2008

ACADEMIC SERVICE

Fellow, Engineering Graduate Leadership Fellow Program Jan. 2023 - Dec. 2024
College of Engineering, Michigan State University

- Organized Graduate Women Lunches to foster community and professional development
- Organized social events for students' well-being, including Bagels Before Break every semester and a coffee drop-in event.
- Fostered a vibrant research community through the organization of the Engineering Graduate Research Symposium

GSMD Co-Chair, Graduate Women in Science Mid-Michigan Sep. 2024 - May. 2025
Michigan State University

- Recruited presenters and volunteers for Girls Math & Science Day (GMSD)
- Executed event logistics and secured necessary funding

PROFESSIONAL SOCIETIES

Graduate Women In Science 2024 - Present

PUBLICATIONS

1. Michelle YoungJin Kim*, Junghwan Kim*, Kristen Johnson "ABLE: Agency-BeLiefs Embedding to Address Stereotypical Bias through Awareness instead of Obliviousness," The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)
2. Michelle YoungJin Kim, Junghwan Kim, Kristen Johnson, "Race, Gender, and Age Biases in Biomedical Masked Language Models," The 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023)
3. Junghwan Kim, Michelle YoungJin Kim, Barzan Mozafari, "Provable Memorization Capacity of Transformers," The Eleventh International Conference on Learning Representations (ICLR 2023)
4. Michelle YoungJin Kim, Junghwan Kim, Bryan Woosung Kim, Kristen Johnson, Jee-In Kim, "AsdClaims: Twitter Dataset of Claims on Autism Spectrum Disorder," 1st International Workshop on Big Data Analytics for Health and Medicine (IEEE 2022)
5. Michelle YoungJin Kim, Kristen Johnson, "CLoSE: Contrastive Learning of Subframe Embeddings for Political Bias Classification of News Media," The 29th International Conference on Computational Linguistics (COLING 2022)
6. Woojeong Jin, Dongjin Choi, Youngjin Kim, and U Kang, "Activity Prediction from Sensor Data using Convolutional Neural Networks and an Efficient Compression Method," Journal of KIISE (KIISE 2018)

PRESENTATIONS

1. Michelle YoungJin Kim, "Let's teach ChatGPT stereotypes to make it less biased," The 3rd Edition of Ignite Talks MSU (Ignite Talks 2024)
2. Michelle YoungJin Kim*, Junghwan Kim*, Kristen Johnson "ABLE: Agency-BeLiefs Embedding to Address Stereotypical Bias through Awareness instead of Obliviousness," The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)
3. Michelle YoungJin Kim*, Junghwan Kim*, Kristen Johnson "ABLE: Agency-BeLiefs Embedding to Address Stereotypical Bias through Awareness instead of Obliviousness," Midwest Speech and Language Day (MSLD 2024)
4. Michelle YoungJin Kim*, Junghwan Kim*, Kristen Johnson "ABLE: Agency-BeLiefs Embedding to Address Stereotypical Bias through Awareness instead of Obliviousness," Michigan State University The 2024 Engineering Graduate Research Symposium (MSU EGRS 2024)

5. Michelle YoungJin Kim, Junghwan Kim, Kristen Johnson, "Race, Gender, and Age Biases in Biomedical Masked Language Models," The 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023)
6. Michelle YoungJin Kim, Junghwan Kim, Bryan Woosung Kim, Kristen Johnson, Jee-In Kim, "AsdClaims: Twitter Dataset of Claims on Autism Spectrum Disorder," 1st International Workshop on Big Data Analytics for Health and Medicine (IEEE 2022)
7. Michelle YoungJin Kim, Kristen Johnson, "CLoSE: Contrastive Learning of Subframe Embeddings for Political Bias Classification of News Media," Michigan State University The 2023 Engineering Graduate Research Symposium (MSU EGRS 2023)
8. Michelle YoungJin Kim, Kristen Johnson, "CLoSE: Contrastive Learning of Subframe Embeddings for Political Bias Classification of News Media," The 29th International Conference on Computational Linguistics (COLING 2022)

WORK EXPERIENCE

MedKit Korea May - Aug. 2021, May - Aug. 2022
Intern *Seoul, South Korea*

- Led the collection of social media data on Autism Spectrum Disorder (ASD) via keyword search, curated dataset through filtering and labeling, and published results at IEEE BDA4HM Workshop
- Generated scenarios using language generation models for a digital therapy game, which was deployed in the app
- Collaborated with medical professionals to build a fact-checking model on ASD using machine learning algorithms

PROJECTS

Legal Judgement Prediction Aug. 2020 - Dec. 2020
Michigan State University Course Project *East Lansing, MI, USA*

- Proposed a novel perspective of utilizing summarization as a pre-processing step for legal judgment prediction
- Studied the taxonomy of legal cases and collected data for legal text summarization and judgment prediction

Building Lidar-Based Human Detection Technology May 2018 - Sep. 2018
Samsung Electronics Co., Ltd. *Seoul, South Korea*

- Developed a Lidar-sensor environment for data acquisition
- Acquired and extracted data for the experiment, using a Lidar sensor

Building Energy Optimization Technology Sep. 2017 - Apr. 2018
Samsung Electronics Co., Ltd. *Seoul, South Korea*

- Developed a model for predicting human indoor activities, which resulted in one published paper and one patent

· Experimented with multimodal data: video for motion detection and sensor for temperature and sound detection
· Managed the model repository and the website that displayed real-time predictions of the lab space activity

Parallelization of Laminar-IR Sep. 2016 - May 2017
Capstone project at Yonsei University *Seoul, South Korea*

· Implemented unfolding of stream graphs onto multicore platforms, using double buffering technique and barriers for synchronization

Recommendation System for the Best-Fit Keyboard Layout Sep. 2016 - Dec. 2016
Class project at Yonsei University *Seoul, South Korea*

· Implemented a deep learning model that recommends a mobile keyboard layout
· Acquired log file data of mobile users

ADDITIONAL EXPERIENCE

Volunteer for the ACL 2023 Conference	2023
CRA-WP Grad Cohort for Women	2022

RELEVANT COURSEWORK

Numerical Linear Algebra	Spring 2021
Natural Language Processing	Fall 2020
Topics in Algorithms (Data Compression)	Spring 2018
Introduction to Computer Vision	Spring 2018
Deep Learning	Fall 2017
Machine Learning	Fall 2017
Discrete Mathematics	Fall 2015

TECHNICAL STRENGTHS

Programming Languages	Python, C++, C, Java
Libraries	PyTorch, TensorFlow, NumPy, SciPy, Pandas

LANGUAGE SKILLS

Advanced	Korean, English
Beginner	Spanish