Woojeong Kim

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INTERESTS

Natural language processing with machine learning
- Generating diverse and context-coherent dialogue
- Interpretable word representations
- High-performance unsupervised neural models

EDUCATION

Yonsei University   Seoul, Republic of Korea
- Bachelor of Arts in Applied Statistics   Mar, 2014 – Feb, 2019
- Bachelor of Engineering in Computer Science

State University of Albany   Albany, NY, USA
Exchange Student   Jan, 2016 – June, 2016

Ewha Girls' Foreign Language High School   Seoul, Republic of Korea
- Majored in Chinese, English   Mar, 2011 – Feb, 2014

WORK
EXPERIENCE

Korea Institute of Science and Technology   Seoul, Republic of Korea
Research Assistant   Mar, 2019 – Present
- Developed unsupervised learning APIs for embedded industrial devices.
- Eliminated redundant filters in a convolutional neural network using clustering algorithms.
- Gave seminars on neuromorphic learning models.

RESEARCH
EXPERIENCE

Data Engineering Laboratory, Yonsei University   Seoul, Republic of Korea
Research Assistant (Advisor: Professor Sanghyun Park)   Oct, 2017 – Aug, 2018
TV Script Chatbot
- Developed a dialogue model that generated answers based on the relationship between characters.
- Developed a sentence-embedding similarity model and LSTM encoder-decoder model with attention.
- Served the chatbot through KakaoTalk.

Customer Center Consultation Text Clustering (with SK Telecom Inc.)
- Utilized Latent Dirichlet Allocation topic modeling to categorize conversations between customers and counselors by subject.

AWARDS
AND HONORS

First Prize ($25,000), KT Artificial Intelligence Novel Contest (2018) [news article]
- Collaborated with Poza Labs to help musicians improve their lyrics using AI.
- The project (Deep Learning Writing Fiction) was presented at PyCon Korea 2018 by our teammate.
- Developed a Python-based web crawler and collected a large corpus of Web novels.
- Developed a transformer model that retrieves the next sentence given the previous five sentences.

Second Prize, Yonsei Data Science Contest (2018)
- Analyzed and categorized survey results based on respondents' consumption habits.
- Developed algorithms to recommend mobile applications based on usage history.
- Developed a Web demo page to visualize clustering and recommendation results.

Honors Student, Yonsei University (2018)

Next Century Humanities Scholarships, Korea Student Aid Foundation (2014 – 2018)
- Received a full scholarship for four years, based on grade.

PROJECTS

Keyword Recommendation System (2018)

- Collaborated with Additor to develop a collaborative document editor.
- Extracted keywords from Additor posts and developed keyword recommendation algorithms using singular vector decomposition.

Course Enrollment Prediction with Machine Learning (2018)
- Predicted the minimum mileage required for enrollment in each class in a computer science department.
- Utilized various boosting tree models including adaboost and XGboost.

Text Analysis of an Anonymous University Forum (2017)
- Created a wordcloud visualization to identify college students' interests.

TEACHING	**DS School**	Seoul, Republic of Korea
	Teaching Assistant	Sep, 2018 – Present

- Taught introductory data science in preparation for Kaggle competitions.
- Covered Python programming as well as the theory and implementation of machine learning algorithms.

Dream Start Program, Samsung Dream Scholarship Foundation Seoul, Republic of Korea

Jul, 2015 – Aug, 2015

Teaching Assistant
- Tutored low-income middle school students in English.

LEADERSHIPS Vice President, Academic Club Yonsei Big Data**,** June, 2017 – June 2018
- Planned a semester-long program and conference to present team projects.

PUBLICATIONS *Improving Word Representations with Weighted Subword Information*, Lead Author (in preparation, expected to be submitted in Dec, 2019)
Dynamic Filter Pruning with Clustering for Deep Convolutional Neural Networks Acceleration, Second Author (in preparation, expected to be submitted in Nov, 2019)

SKILLS Programming Languages
- Python (Pytorch, Tensorflow), Java, C, C++, R, SAS, HTML, PHP

Servers and Databases
- Amazon Web services, Google Cloud, PySpark, Hadoop Mapreduce, MySQL