

Woojeong Kim

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<https://friendshipkim.github.io>

INTERESTS

Natural Language Processing, Machine Learning, High Performance Neural Models

EDUCATION

Yonsei University, Seoul, Republic of Korea Mar. 2014 - Feb. 2019

- Bachelor of Arts in Applied Statistics
- Bachelor of Engineering in Computer Science

University at Albany, State University of New York, NY, USA Jan. 2016 - June. 2016
Exchange Student

Ewha Girls' Foreign Language High School, Seoul, Republic of Korea Mar. 2011 - Feb. 2014

- Majored in Chinese, English

WORK EXPERIENCE

Korea Institute of Science and Technology

Research Intern

Mar. 2019 - Present

- **Unsupervised Learning**
 - Pruning convolutional neural network by pruning redundant filters with clustering algorithms.
 - Developing deep learning models for bearing fault detection.
- **Neuromorphic Learning Models**
 - Gave seminars on neuromorphic learning models including spiking neural network and hierarchical temporal memory.
- **Natural Language Processing**
 - Presented an overview of natural language processing with machine learning and covered papers on word embeddings, language models, and generative models.

RESEARCH EXPERIENCE

Data Engineering Laboratory, Yonsei University

Oct. 2017 - Aug. 2018

Undergraduate Research Intern (Advisor: Professor Sanghyun Park)

- **TV Script Chatbot**
 - Developed a dialogue model that generated different answers, depending on the personal connections of individual television characters.
 - Developed an answer retrieval and generation model and served them through mobile messenger application "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

Grand Prize (\$25,000), KT Artificial Intelligence Novel Contest, Korea Telecom, 2018 [1]

Second Prize, Yonsei Data Science Contest, Yonsei University, 2018 [2]

Third Prize, Big Data Contest, Severance Hospital, 2018

Third Prize, Data Science Contest, National Information Society Agency, 2017

Semester Honors, Yonsei University, Spring 2018

Next Century Humanities Scholarships, Korea Student Aid Foundation, 2014 - 2018

- Received a full scholarship for four years, based on grade.

PROJECTS

Deep Learning Writing Fiction, 2018 (related to [1])

- Collaborated with the startup "Poza Labs" which helps musicians improve their lyrics using AI.
- The project was presented at PyCon Korea 2018.
- 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.

Customer Survey Result Analysis, 2018 (related to [2])

- 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.

Keyword Recommendation System, 2018

- Collaborated with the startup "Additor" which develops collaborative document editor.
- Extracted keywords from Additor posts and recommended new keywords that the writer might be interested in.

Course Enrollment Prediction, 2018

- Predicted the minimum betting point required for enrollment in each class in a computer science department.
- Utilized various boosting tree models for classification.

TEACHING

DS School, Seoul, Republic of Korea

Sep. 2018 - Feb. 2019

Teaching Assistant

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

Samsung Dream Scholarship Foundation, Seoul, Republic of Korea

Jul. 2015 - Aug. 2015

Teaching Assistant

- Tutored low-income middle school students in English.

LEADERSHIPS

Yonsei Big Data Club

Jan. 2017 - Jun. 2018

Vice President, Leader of Data Engineering Team

- Collaborated with several companies to design data analysis projects and organized the conference to present them.

PUBLICATIONS

1. *REPrune: Filter Pruning via Representative Election*, Second Author (Submitted in CVPR 2020)
2. *Explainable Word Embeddings*, Lead Author (in preparation)

SKILLS

Programming Languages

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

Servers and Databases

- Amazon Web Services, Google Cloud Platform, PySpark, Hadoop Mapreduce, MySQL