

WHANHEE CHO

Email: whanhee@cs.utah.edu

RESEARCH INTERESTS

Database Management, Explainable AI, Natural Language Processing

PUBLICATIONS

Whanhee Cho, Anna Fariha. "UTOPIA: Automatic Pivot Table Assistant" PVLDB 2024

Minji Kim, Whanhee Cho, Soohyeong Kim, and Yong Suk Choi. "Simple Data Transformations for Mitigating the Syntactic Similarity to Improve Sentence Embeddings at Supervised Contrastive Learning" Advanced Intelligent Systems 2024

Soohyeong Kim, Whanhee Cho, Minji Kim, and Yong Suk Choi. "Bidirectional Masked Self-attention and N-gram Span Attention for Constituency Parsing" EMNLP Findings 2023

Whanhee Cho, and Yong Suk Choi. "Semi-Supervised GAN using BERT hidden layer outputs and Multi-Generator", *Korea Computer Congress*, 618-620, Jeju-do, Republic of Korea, June 2022, ISSN: 2635-5868

Whanhee Cho, and Yong Suk Choi. "LMGAN: Linguistically Informed Semi-Supervised GAN with Multiple Generators" *Sensors* 22, no. 22: 8761 2022.

PREPRINT

Whanhee Cho "ACCIO: Table Understanding Enhanced via Contrastive Learning with Aggregations." Preprint, 2024

EDUCATION

UNIVERSITY OF UTAH, Graduate School, Utah, the United States of America
Doctor of Philosophy in Computer Science

Aug. 2023 - Present

HANYANG UNIVERSITY, Graduate School, Seoul, Republic of Korea
Master of Science in Computer Science

Mar. 2021 – Feb. 2023

HANYANG UNIVERSITY, Seoul, Republic of Korea
Bachelor of Computer Science and Software Engineering
Summa Cum Laude

Mar. 2017 – Feb. 2021

RESEARCH EXPERIENCE

Hanyang University Artificial Intelligence LAB
Full-time Student Researcher

Seoul, South Korea
Mar. 2021 – Feb. 2023

- Data preprocessing, and data filtering for pre-training large-scale A.I. model of KT AI One Team*. The goal of the project is to protect the model from training with toxic data, including curses and hatred. We built a toxic dataset and a classifier for filtering such data since we approached the problem as a classification task. (KT AI One Team*: A national AI cooperative organization of 12 industry-university-research institutes.)
- Conceptualizing and participating in implementing data visualization of SNS-based Sentiment Analysis map*. (SNS-based Sentiment Analysis map*: Anxiety analysis map over South Korea based on tweets.
<http://sentimap.hanyang.ac.kr/>)

Hanyang University Artificial Intelligence LAB
Full-Time Undergraduate Student Researcher

Seoul, South Korea
Dec. 2020 – Feb. 2021

- Investigated relations and impacts of next token probability onto positional embeddings.
- The purpose of this project was to validate the effect of GPT-2 next token prediction probability on positional embedding at the relation extraction task using the TACRED dataset. According to the next token probability, set the positional embedding values of the next gold token to be closer or further from the current token.
- The model architecture of relation extraction consists of BERT and bidirectional LSTM.

WORK EXPERIENCE

Samsung DS

Seoul, South Korea

Lecturer

April 2023 – June 2023

- Lectured about basic python programming, data preprocessing, and probability and statistics.

Fortify Communication Inc. Canada

British Columbia, Canada

Internship

Jul. 2019 – Aug. 2019 (seven weeks)

- Developed and investigated the backend code of a serviced website with Spring Framework

PROJECT EXPERIENCE

Implementation of Concurrent B Skiplist Tree

- Course CS 6530: Advanced Database Systems
- The goal of the project is to implement and evaluation of the concurrent B Skiplist Tree.

A Survey of Semi-Supervised Text Classification

- Course ITE4075: Computer Engineering Paper Research
- The goal of this project was to write a survey paper about semi-supervised learning for text classification papers.

Graduation Project: Real-Time Reply Twitter Bot for Identifying Fake News from Twitter

- Implemented a Twitter bot that can classify if a tweet contains fake news when a random user request to discriminate.
- The goal of the project is to discriminate whether a tweet contains fake news. The classifier is based on a neural network. The model classifies the tweet with lexical features, syntactic features, and psycholinguistic features as input variables.
- The contribution of the project is user-friendly access and real-time service discriminating against fake news. Since social media is one of the sources where fake news propagates, discrimination against the news also should be provided simultaneously to stop the propagation.

TEACHING

Hanyang University

Seoul, Republic of Korea

- Course ITE4053: Deep Learning Methods and Applications
- Taught undergraduate students various basic deep learning models such as Autoencoder, CNN, YOLO, RNN, GAN, and DQN. Used PyTorch and Google Colaboratory for implementations.
- Planned assignments and graded exams.

Hanyang University

Seoul, Republic of Korea

Teaching Assistant for Undergraduate School Course

Sep. 2021 – Dec. 2021

- Course CSE4007: Artificial Intelligence
- Planned assignments and graded exams.

Hanyang University

Seoul, Republic of Korea

Teaching Assistant for Graduate School Course

2021 – 2022

- Course CCE0092: Introduction to Artificial Intelligence
- Planned assignments and graded papers and exams.

GRANTS, SCHOLARSHIPS & AWARDS

Fellowship, Kahlert School of Computing, University of Utah

2023

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| Brain Korea 21, National Research Foundation of Korea | 2021-2022 |
| Merit Scholarship based on Undergraduate GPA, Hanyang University | 2021-2022 |
| Summa Cum Laude, Hanyang University | Feb. 2021 |
| Need Based Scholarship, Hanyang University | 2019- 2020 |
| National Grant Type II (reduction or exemption), Korea Student Aid Foundation (KOSAF) | 2018- 2020 |
| Honors student in the 1st semester of 2018, Hanyang University | Sep. 2018 |
| Merit Based Scholarship, Hanyang University | 2018 |
| Career Based Scholarship, Hanyang University | 2017-2018 |
| National Grant Type I (reduction or exemption), Korea Student Aid Foundation (KOSAF) | Fall 2017 |

VOLUNTARY / EXTRACURRICULAR ACTIVITIES

Hanyang University Support Center for Disabled Students, Seoul, Republic of Korea Sep. 2020 - Dec. 2020

- Transcribed an academic lecture for a deaf student over 16 weeks
- Helped a student to get a comfortable environment while taking exams.

Child Welfare Center, Seoul, Republic of Korea Jan. 2019 - Feb. 2019

- Taught elementary students Mathematics and English.

Group Study Competition Mar. 2018 - Jun. 2018

- Group study Competition for Object-Oriented Programming Course
- Earned 3rd prize out of about 80 teams