YOONJOO LEE

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RESEARCH INTEREST

My research interest lies in the intersection of human-computer interaction (HCI), natural language processing (NLP), and Education. I aim to support people to learn from and understand information-dense text (e.g., lecture transcript, scientific article) by structuring the information in the context to create conversational questions and answers to scaffold people's understanding.

EDUCATION

KAIST   **Daejeon, Republic of Korea**
    Ph.D. Candidate in Computer Science. Advisor: Juho Kim   Sep. 2020 – Present

Ewha Womans University   **Seoul, Republic of Korea**
    M.S. in Statistics (Applicational Statistics). Advisor: Dongwan Shin   Mar. 2018 – Feb. 2020
    B.S. Major in Mathematics Education, Minor in Statistics   Mar. 2014 – Feb. 2018
    Graduated with Honors (*Magna Cum Laude*)

University of California, Davis   **Davis, CA, USA**
    Exchange student in Mathematics   Sep. 2015 – Feb. 2016

PUBLICATIONS

Conference and Journal Papers

[C6] **CogQA: Answering Advanced Questions on Scientific Articles (TBD)**
Yoonjoo Lee[*], Kyungjae Lee[*], Sunghyun Park, Dasol Hwang, Jaehyeon Kim, Hong-in Lee, Moontae Lee
Accepted in ICML 2023

[C5] **DAPIE: Interactive Step-by-Step Explanatory Dialogues to Answer Children's Why and How Questions**
Yoonjoo Lee, Tae Soo Kim, Sundong Kim, Yohan Yun, Juho Kim
CHI 2023: Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems.

[C4] **Promptiverse: Scalable Generation of Scaffolding Prompts Through Human-AI Hybrid Knowledge Graph Annotation**
Yoonjoo Lee, John Joon Young Chung, Tae Soo Kim, Jean Y. Song, Juho Kim
CHI 2022: Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems

[C3] **Personalizing Ambience and Illusionary Presence: How People Use "Study with Me" Videos to Create Effective Studying Environments**
Yoonjoo Lee, John Joon Young Chung, Jean Y. Song, Minsuk Chang, Juho Kim
CHI 2021: Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems.

[C2] **A Machine Learning Approach that meets Axiomatic Properties in Probabilistic Analysis of LTE Spectral Efficiency**
Yoonjoo Lee, Yunbae Kim, Seungken Park
ICTC, Oct. 2019

[C1] Probabilistic Analysis of Spectral Efficiency for LTE based on PDCCH Measurement Data

Yoonjoo Lee, Yunbae Kim, Yeonkyu Park, Seungken Park

IEEE Communications Letters, vol. 23, no. 9, Sep. 2019

Posters and Workshop Papers

[P5] LMCanvas: Object-Oriented Interaction to Personalize Large Language Model-Powered Writing Environments

Tae Soo Kim, Arghya Sarkar, Yoonjoo Lee, Minsuk Chang, and Juho Kim

CHI 2023 Workshop on Generative AI and HCI

[P4] Interactive Children's Story Rewriting Through Parent-Children Interaction

Yoonjoo Lee, Tae Soo Kim, Minsuk Chang, Juho Kim

ACL 2022 Workshop on Intelligent and Interactive Writing Assistant

[P3] XDesign: Integrating Interface Design into Explainable AI Education

Hyungyu Shin, Nabila Sindi, Yoonjoo Lee, Jaeryoung Ka, Jean Y. Song, Juho Kim

SIGCSE TS 2022 Posters

[P2] A Study on the Distribution Analysis of LTE Resource Block Usage from TSME Measurement Data

Yoonjoo Lee, Yunbae Kim, Seungken Park

KICS, Jun. 2018

[P1] A Study on the Estimation of Probability Distribution of the Spectral Efficiency of LTE based on TSME Measurement Data

Yunbae Kim, Yoonjoo Lee, Seungken Park

KICS, Jun. 2018

RESEARCH EXPERIENCE

Allen Institute for AI (AI2)   **Seattle, US**
Research Scientist Intern, Semantic Scholar Team (*Mentor:* Pao Siangliulue, Joseph Chee Chang, Jonathan Bragg)   May 2023 –

LG AI Research   **Seoul, Republic of Korea**
Research Scientist Intern, Advanced Machine Learning Lab (*Mentor:* Moontae Lee, Kyungjae Lee)   Nov. 2022 – March. 2023
● Designed a schema for questions triggered from academic papers by adapting prior literature in education to a paper reading context.
● Collected various advanced questions based on the proposed schema from academic paper readers [C6].

KIXLAB, KAIST   **Daejeon, Republic of Korea**
Graduate Research Intern (*Mentor:* Juho Kim, Jean Y. Song)   Mar. 2020 – Aug. 2020
● Investigated user experiences with VR services by analyzing large-scale text data using various techniques like clustering, topic modeling, and sentiment analysis.

Electronics and Telecommunications Research Institute (ETRI)   **Daejeon, Republic of Korea**
Graduate Research Assistant, Data Sciences Group (*Mentor:* Yunbae Kim, Seungken Park)   Mar. 2018 – Dec. 2019
● Performed analysis of Spectral Efficiency for LTE with probabilistic modeling and Deep Neural Networks. [P1, C1, C2]
● Participated in research about predicting future Resource Block Usage by applying stochastic modeling and Recurrent Neural Networks. [P2]
Undergraduate Research Intern, Data Sciences Group   Jan. 2018 – Feb. 2018
● Devised a module for pre-processing and summarizing mobile traffic data in Python.

TEACHING

Introduction to Social Computing   Fall 2020, Fall 2021
KAIST CS473, Instructor: Juho Kim

Time Series Analysis   Spring 2019
Ewha Womans University, Instructor: Dongwan Shin

Regression Analysis   Fall 2018
Ewha Womans University, Instructor: Donghwan Lee

SERVICES

Program Committee
● CHI LBW 2023

Reviewer
● CHI 2023, 2022
● UIST 2022
● ACL 2023
● CSCW 2023
● C&C 2022
● IEEE Transactions on Learning Technologies

Student Volunteer
CHI 2022

KAIST-Google ExploreCSR   2022
Student Organizer

Programming Mentoring   2016 – 2017
Leader of Student Organizer

Mathematics Mentoring in Ewha Girls High School   2015 – 2017
Mentor

HONORS, AWARDS, AND SCHOLARSHIPS

Research Assistant Scholarship   2019
College of Natural Sciences, Ewha Womans University

Admission Scholarship   2018
College of Natural Sciences, Ewha Womans University

Honors Scholarship   2014, 2015, 2016, 2017
College of Education, Ewha Womans University

Dean's List   2014, 2015, 2016, 2017
College of Education, Ewha Womans University

Ewha Womans University Alumnae Association Scholarship   2017
College of Education, Ewha Womans University