# YOONJOO LEE

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## RESEARCH INTEREST

My research interest lies in the intersection of **human-computer interaction (HCI)** and **natural language processing (NLP)**. I focus on exploring how **AI systems can interact with individuals to tailor knowledge to their unique needs**. Specifically, I design human-AI interactive systems for personalized knowledge consumption and evaluate how effectively AI models can adapt knowledge to align with diverse user requirements.

## EMPLOYMENT EXPERIENCE

**Adobe Research**  **San Jose, CA, USA**
*Research Intern, Document Intelligence Lab*  May - Sept. 2024
*Mentor:* Alexa F Siu, Tong Sun  [U1]

**Allen Institute for Artificial Intelligence (AI2)**  **Seattle, WA, USA**
*Research Scientist Intern, Semantic Scholar Team*  May - Oct. 2023
*Mentor:* Pao Siangliulue, Joseph Chee Chang, Jonathan Bragg, Kyle Lo  [C10, C12]

**LG AI Research**  **Seoul, Republic of Korea**
*Research Scientist Intern, Advanced Machine Learning Lab*  Nov. 2022 – Mar. 2023
*Mentor:* Moontae Lee, Kyungjae Lee  [C6]

**KIXLAB, KAIST**  **Daejeon, Republic of Korea**
*Graduate Research Intern*  Mar. 2020 – Aug. 2020
*Mentor:* Juho Kim, Jean Y. Song

**Electronics and Telecommunications Research Institute (ETRI)**  **Daejeon, Republic of Korea**
*Graduate Research Assistant, Data Sciences Group*  Mar. 2018 – Dec. 2019
*Mentor:* Yunbae Kim, Seungken Park  [P1, P2, C1, C2]

## 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; *Magna Cum Laude*  Mar. 2014 – Feb. 2018

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

## PUBLICATIONS

### Conference and Journal Papers

**[C12] ARXIVDIGESTABLES: Synthesizing Scientific Literature into Tables using Language Models**

Benjamin Newman[*], **Yoonjoo Lee**[*], Aakanksha Naik, Pao Siangliulue, Raymond Fok, Juho Kim, Daniel S Weld, Joseph Chee Chang, Kyle Lo

*EMNLP 2024: In 2024 Conference on Empirical Methods in Natural Language Processing.*

**[C11] One vs. Many: Comprehending Accurate Information from Multiple Erroneous and Inconsistent AI Generations**

**Yoonjoo Lee**, Kihoon Son, Tae Soo Kim, Jisu Kim, John Joon Young Chung, Eytan Adar, Juho Kim

*FAccT 2024: In 2024 ACM Conference on Fairness, Accountability, and Transparency.*

**[C10] PaperWeaver: Enriching Topical Paper Alerts by Contextualizing Recommended Papers with User-collected Papers**

**Yoonjoo Lee**, Hyeonsu B Kang, Matt Latzke, Juho Kim, Jonathan Bragg, Joseph Chee Chang, Pao Siangliulue

*CHI 2024: In 2024 CHI Conference on Human Factors in Computing Systems.*

**[C9] EvalLM: Interactive Evaluation of Large Language Model Prompts on User-Defined Criteria**

Tae Soo Kim, **Yoonjoo Lee**, Jamin Shin, Young-Ho Kim, Juho Kim

*CHI 2024: In 2024 CHI Conference on Human Factors in Computing Systems.*

**[C8] VIVID: Human-AI Collaborative Authoring of Vicarious Dialogues from Lecture Videos**

Seulgi Choi**,** Hyewon Lee, **Yoonjoo Lee**, Juho Kim

*CHI 2024: In 2024 CHI Conference on Human Factors in Computing Systems.*

**[C7] QASA: Advanced Question Answering on Scientific Articles**

**Yoonjoo Lee**[*], Kyungjae Lee[*], Sunghyun Park, Dasol Hwang, Jaehyeon Kim, Hong-in Lee, Moontae Lee

*ICML 2023: In 40th International Conference on Machine Learning*

**[C6] Cells, Generators, and Lenses: Design Framework for Object-Oriented Interaction with Large Language Models**

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

*UIST 2023: In 2023 ACM Symposium on User Interface Software and Technology.*

**[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: In 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: In 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: In 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*

## Conference Papers in Submission (under review)

**[U2] Multiverse of Reading Paths: Anticipating User's Information Needs and Guiding Reading through Question Answering**

**Yoonjoo Lee**, Nedim Lipka, Jack Wang, Puneet Mathur, Ryan Rossi, Tong Sun, Alexa F Siu

*Under Review, 2024*

**[U1] The BiGGen Bench: A Principled Benchmark for Fine-grained Evaluation of Language Models with Language Models**

Seungone Kim, Juyoung Suk, Ji Yong Cho, [18 authors], **Yoonjoo Lee**, [5 authors], Sean Welleck, Graham Neubig, Moontae Lee, Kyungjae Lee, Minjoon Seo

*Under Review, 2024*

## Posters and Workshop Papers

**[P6] How to Reflect Diverse People's Perspectives in Large-Scale LLM-based Evaluations?**

**Yoonjoo Lee**, Tae Soo Kim, Juho Kim

*CHI 2024 Workshop on Human-Centered Evaluation and Auditing of Large Language Models*

**[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*

## Patents

**Multiverse of Reading Paths: Anticipating User's Information Needs and Guiding Reading through Question Answering**

**Yoonjoo Lee**, Nedim Lipka, Jack Wang, Puneet Mathur, Ryan Rossi, Tong Sun, Alexa F Siu. Adobe Research. Filed 2024.

## TEACHING EXPERIENCE

**Introduction to Algorithms**                                                                 Spring 2024
*KAIST CS300 Teaching Assistant, Instructor: Sunghee Choi*

**Introduction to Data Science**                                                              Spring 2022
*KAIST CS492 Teaching Assistant, Instructor: Jaegil Lee*

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

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

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

## INVITED TALKS

**Invited Talk at University of Pennsylvania**                                                    Feb. 2025
*Title: Personalized Knowledge Understanding Support: Aligning AI Systems with How Humans Understand Knowledge*

**Invited Talk at Center for Human-Computer Interaction at Virginia Tech**                       Jan. 2025
*Title: Personalized Knowledge Understanding Support: Aligning AI Systems with How Humans Understand Knowledge*

**Guest Lecture at KAIST CS475 ML for NLP**                                                     Dec. 2024
*Title: Data Use in LLMs and Human-centered Evaluation*

**Invited Talk at Google Explore CSR Journey of Research Workshop 2024**                        Nov. 2024
*Title: Personalized Knowledge Understanding Support: Aligning AI with How Humans Understand Knowledge*

**Allen Institute for Artificial Intelligence (AI2)**                                           June 2024
*Title: Personalized Knowledge Understanding Support: Aligning AI Agents with How Humans Understand Knowledge*

**Invited Talk at HCI KOREA 2024: SIGCHI-Sponsored Top Conferences Session**                    Jan. 2024
*Title: DAPIE: Interactive Step-by-step Explanatory Dialogues to Answer Children's Why and How Questions*

**Technical Talk at NAVER AI LAB**                                                              Nov. 2023
*Title: Creating Interactive Dialogues to Answer Children's Why and How Questions*

**Invited Talk at UCSD Design Lab**                                                             Oct. 2023
*Title: Adapting Scaffolding to Support Knowledge Consumption through Interactive AI-Driven Systems*

## PROFESSIONAL SERVICES

**Program Committee**
- CHI LBW 2023

**Workshop Organizer**
- 2024 ACL Science Document Processing Workshop
- 2022 KAIST-Google ExploreCSR

**Reviewer**
- CHI 2022, 2023, 2024, 2025
- UIST 2022, 2023, 2024
- ICLR 2025
- EMNLP 2023
- ACL 2023

- IUI 2025
- CSCW 2023
- C&C 2022, 2024
- IEEE Transactions on Learning Technologies

**Student Volunteer**

*CHI 2022*


## HONORS, AWARDS, AND SCHOLARSHIPS

**Best Presentation Award from SIGCHI Invited Papers Session**                    2024
*SIGCHI Korea Local Chapter*

**Research Assistant Scholarship**                    2019
*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*