

## RESEARCH INTEREST

My research interests fall in the intersection of **human-AI interaction** and **natural language processing**, with a focus on aligning AI systems with human cognitive processes to make them more adaptive, interpretable, and human-centered. Specifically, I (1) develop AI systems that interactively adapt outputs to individual users by modeling cognitive processes based on users' tasks and contexts, and (2) design evaluation methods to assess how effectively AI systems can generate outputs aligned with human cognitive processes.

## PROFESSIONAL EXPERIENCE

### University of Michigan

*Postdoctoral Fellow, Computer Science and Engineering*

*Advisor:* Q. Vera Liao

**Ann Arbor, MI, USA**

Sept. 2025-

### Adobe Research

*Research Intern, Document Intelligence Lab*

*Mentor:* Alexa F Siu, Tong Sun

**San Jose, CA, USA**

May – Sept. 2024

[P7]

### Allen Institute for Artificial Intelligence (AI2)

*Research Intern, Semantic Scholar Team*

*Mentor:* Pao Sianglihue, Joseph Chee Chang, Jonathan Bragg, Kyle Lo

**Seattle, WA, USA**

May – Oct. 2023

[C10, C12]

### LG AI Research

*Research Intern, Advanced Machine Learning Lab*

*Mentor:* Moontae Lee, Kyungjae Lee

**Seoul, Republic of Korea**

Nov. 2022 – Mar. 2023

[C6]

### Electronics and Telecommunications Research Institute (ETRI)

*Graduate Research Assistant, Data Sciences Group*

*Mentor:* Yunbae Kim, Seungken Park

**Daejeon, Republic of Korea**

Mar. 2018 – Dec. 2019

[P1, P2, C1, C2]

## EDUCATION

### KAIST

Ph.D. in Computer Science, Advisor: Juho Kim

Dissertation Title: *Aligning AI Systems with Human Cognitive Processes for Knowledge Understanding*

**Daejeon, Republic of Korea**

Sept. 2020 – Aug. 2025

### Ewha Womans University

M.S. in Statistics (Applicational Statistics). Advisor: Dongwan Shin

B.S. Major in Mathematics Education, Minor in Statistics; *Magna Cum Laude*

**Seoul, Republic of Korea**

Mar. 2018 – Feb. 2020

Mar. 2014 – Feb. 2018

## PUBLICATIONS

### Conference and Journal Papers

#### [C18] PANORAMA: A Dataset and Benchmark Tasks Capturing the Evaluation Trails and Rationales in Patent Examination

Hyunseung Lim, Sooyohn Nam, Sungmin Na, Ji Yong Cho, June Yong Yang, Hyungyu Shin, **Yoonjoo Lee**, Juho Kim, Moontae Lee, Hwajung Hong

*NeurIPS 2025: Conference on Neural Information Processing Systems*

#### [C17] Mind the Blind Spots: A Focus-Level Evaluation Framework for LLM Reviews

Hyungyu Shin, Jingyu Tang, **Yoonjoo Lee**, Nayoung Kim, Hyunseung Lim, Ji Yong Cho, Hwajung Hong, Moontae Lee, Juho Kim

*EMNLP 2025: Conference on Empirical Methods in Natural Language Processing, SAC Highlight Award*

**[C16] Compositional Stagewise Diffusion for Progressive Generation**

Jaesang Yu, Seoyeon Byun, Tae Soo Kim, **Yoonjoo Lee**, Yilun Du, Juho Kim

*Under Review, 2025*

**[C15] Evalet: Evaluating Large Language Models by Fragmenting Outputs into Functions**

Tae Soo Kim\*, Heechan Lee\*, **Yoonjoo Lee**, Young-Ho Kim, Juho Kim

*Under Review, 2025*

**[C14] CUPID: Evaluating Personalized and Contextualized Alignment of LLMs from Interactions**

Tae Soo Kim, **Yoonjoo Lee**, Yoonah Park, Jiho Kim, Young-Ho Kim, Juho Kim

*COLM 2025: Conference on Language Modeling*

**[C13] 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: Conference on Empirical Methods in Natural Language Processing*

**[C12] 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

*NAACL 2025: Conference of the North American Chapter of the Association for Computational Linguistics, Best Paper Award*

**[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: 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: ACM 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: ACM 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: ACM 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: 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: 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: ACM 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: ACM 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: ACM 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*

## Extended Abstracts, Posters, and Workshop Papers

- [P7] DocVoyager: Anticipating User's Information Needs and Guiding Document Reading through Question Answering**  
**Yoonjoo Lee**, Nedim Lipka, Jack Wang, Puneet Mathur, Ryan Rossi, Tong Sun, Alexa F Siu  
*CHI 2025 Late-Breaking Work*
- [P6] The Fourth Workshop on Scholarly Document Processing**  
Tirthankar Ghosal, Amanpreet Singh, Anita Waard, Philipp Mayr, Aakanksha Naik, Orion Weller,  
**Yoonjoo Lee**, Shannon Shen, Yanxia Qin  
*ACL 2024 Workshop Co-organizer: Fourth Workshop on Scholarly Document Processing*
- [P5] 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*
- [P4] 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*
- [P3] 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*
- [P2] 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*

## [P1] A Study on the Distribution Analysis of LTE Resource Block Usage from TSME Measurement Data

**Yoonjoo Lee**, Yunbae Kim, 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.

## MENTORING EXPERIENCE

<b>Yubin Choi</b> , PhD student, University of Michigan	Fall 2025 - current
<b>Shaoyang Zhang</b> , Undergrad student, University of Michigan	Fall 2025 - current
<b>Jaesang Yu</b> , Master's student, KAIST	Summer 2024 - current
<b>Heechan Lee</b> , Undergrad student, KAIST >> Master's student, KAIST	Summer 2024 - current
<b>Yoonah Park</b> , Undergrad student, Seoul National University	Winter 2023 - Winter 2024
<b>Jiho Kim</b> , Undergrad student, Calvin University	Summer 2024
<b>Yuewen Yang</b> , Master's student, Cornell Tech	Winter 2023
<b>Seulgi Choi</b> , Master's student, KAIST	Summer 2023
<b>Jisu Kim</b> , Undergrad student, KAIST >> Master's student, Georgia Tech	Winter 2023 - Summer 2023
<b>Yohan Yun</b> , Undergrad student, KAIST >> Master's student, KAIST	Winter 2021 - Summer 2022

## HONORS, AWARDS, AND SCHOLARSHIPS

<b>Best Paper Award</b> , NAACL	2025
<b>SAC Highlight Award</b> , EMNLP	2025
<b>MIDAS Postdoctoral Affiliate</b> , Michigan Institute for Data and AI in Society (MIDAS) <i>University of Michigan — Selected as one of up to 10 postdoctoral researchers</i>	2025
<b>Best Presentation Award from SIGCHI Invited Papers Session</b> <i>SIGCHI Korea Local Chapter</i>	2024
<b>Research Assistant Scholarship</b> <i>College of Natural Sciences, Ewha Womans University</i>	2019
<b>Honors Scholarship</b> <i>College of Education, Ewha Womans University</i>	2014, 2015, 2016, 2017
<b>Dean's List</b> <i>College of Education, Ewha Womans University</i>	2014, 2015, 2016, 2017

## PROFESSIONAL SERVICES

### Program Committee

- CHI 2026 (Associate Chair)
- CHI LBW 2023

### Workshop Organizer

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

### Reviewer

- ACM CHI '22-'25, UIST '22-'25, IUI '25, CSCW '23, C&C '22-'24, IEEE TLT '22
- ICLR '25, EMNLP '23-'25, ACL '23

### Student Volunteer

*CHI 2022*

## TEACHING EXPERIENCE

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<b>Introduction to Algorithms</b>	Spring 2024
KAIST CS300 Teaching Assistant, Instructor: Sunghee Choi	
<b>Introduction to Data Science</b>	Spring 2022
KAIST CS492 Teaching Assistant, Instructor: Jaegil Lee	
<b>Introduction to Social Computing</b>	Fall 2020, Fall 2021
KAIST CS473 Teaching Assistant, Instructor: Juho Kim	
<b>Time Series Analysis</b>	Spring 2019
Ewha Womans University, Teaching Assistant, Instructor: Dongwan Shin	
<b>Regression Analysis</b>	Fall 2018
Ewha Womans University, Teaching Assistant, Instructor: Donghwan Lee	

## INVITED TALKS

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<b>Simulating Human Cognitive Processes for Interactive Evaluation</b>	
Invited Panelist, CSE 598: AI for Science, University of Michigan	Nov. 2025
<b>Adaptive Knowledge Understanding Support: Aligning AI Systems with Human Cognitive Processes</b>	
Purdue University	Apr. 2025
Pennsylvania State University	March 2025
Allen Institute for Artificial Intelligence (AI2)	March 2025
Apple MLR group	March 2025
CMU, Co-Augmentation, Learning, & AI (CoALA) Lab, WInE Lab	Feb. 2025
University of Pennsylvania	Feb. 2025
Center for Human-Computer Interaction at Virginia Tech	Jan. 2025
<b>Data Use in LLMs and Human-centered Evaluation</b>	
Guest Lecture, CS475: Machine Learning for Natural Language Processing, KAIST	Dec. 2024
<b>Personalizing AI Systems to Support How Humans Understand Knowledge</b>	
Invited Talk at Google Explore CSR Journey of Research Workshop 2024	Nov. 2024
<b>Teaching Models to Explain: Interactive Step-by-Step Dialogues for Children's Questions</b>	
Invited Talk at HCI KOREA 2024: SIGCHI-Sponsored Top Conferences Session	Jan. 2024
Technical Talk at NAVER AI LAB	Nov. 2023
<b>Adapting Scaffolding to Support Knowledge Consumption through Interactive AI-Driven Systems</b>	
Invited Talk at UCSD Design Lab	Oct. 2023