Jiqun Liu, PhD

	Bizzell Memorial Library, Room 120 401 West Brooks, Norman, OK 73019 School of Library and Information Studies Dodge Family College of Arts and Sciences The University of Oklahoma jiqunliu@ou.edu [Homepage] [HCIR Lab page] [Google Scholar]	
RESEARCH INTERESTS	Human-centered data science; Human-AI interaction and collaboration; Bounded rationality; Intelligent information retrieval and recommendation; Fairness, diversity, and ethics in computing; Psychology-informed user modeling	
ACADEMIC POSITIONS	Tenure-Track Assistant Professor of Data Science Affiliated Assistant Professor of Psychology Faculty Member, Data Institute for Societal Challenges The University of Oklahoma, Norman, OK	2020- present 2021- present 2021- present
EDUCATION	Ph.D. in Information Science School of Communication & Information Rutgers University, New Brunswick, NJ	2016 - 2020
	Master of Management in Information Science Department of Information Management Peking University, Beijing, China	2014 - 2016
	Bachelor of Management in Library Science Bachelor of Economics in Finance Nankai University, Tianjin, China	2010 - 2014 2011 - 2014
HONORS & AWARDS	 ASIS&T SIG USE Information Behavior Best Paper Award (2023) ASIS&T SIG USE Information Behavior Best Poster Award (2022) ACM/IEEE JCDL Vannevar Bush best paper award nominee (2022) ASIS&T Annual Meeting best student paper award (2019) Outstanding doctoral student award from Rutgers iSchool (2019) ACM SIGIR student travel grant (2017, 2018, 2019, 2020) ASIS&T SIG USE student conference travel award (2019) Doctoral fellowship from Rutgers iSchool (2016-2017) Excellent Graduate of Peking University (2016) Peking University Academic Scholarship (2015, 2016) Peking University National Scholarship (2015) 	
EXTERNAL GRANTS	 Research Experience for Undergraduates (REU) supplemental award from the National Science Foundation (NSF) bias-aware user modeling in interactive IR project, PI, \$8,000, September 2022 – May 2023 National Science Foundation (NSF) CRII: III: "A bias-aware approach to modeling users in interactive information antrious!" PL \$174,050, June 2021. June 2023 	
INTERNAL GRANTS	 users in interactive information retrieval", PI, \$174,959, June 2021 – June 2023 Bridge Funding Investment Program (BFIP) Award, "Identifying and mitigating cognitive biases in Generative-AI-assisted online learning", University of Oklahoma 	

Office of the Vice President for Research and Partnerships, **\$33,918, PI: Jiqun Liu**, Fall 2023

- Junior Faculty Fellowship Program Award, "Toward a two-sided fairness framework for search and recommendation", University of Oklahoma Office of the Vice President for Research and Partnerships, **\$7,000, PI: Jiqun Liu,** Summer 2023
- DISC Seed Fund 2022: "Active learning method for fair and useful Learning to Rank (LTR) in intelligent information retrieval", the Data Institute for Societal Challenges (DISC), University of Oklahoma, **\$9,800, PI: Dr. Jiqun Liu,** Co-PI: Chao Lan (School of Computer Science), May 2022 – May 2023
- Junior Faculty Summer Fellowship Program award, "Assessing the reusability of session test collections in evaluating intelligent information retrieval systems", University of Oklahoma DFCAS, **PI**, **\$7,000**, Summer 2022
- Faculty Investment Program Project: "Toward expectation-based effectiveness metrics for adaptive whole session information retrieval evaluation", University of Oklahoma Office of the Vice President for Research and Partnerships, **PI**, **\$15,000**, January 2022 January 2023.
- Junior Faculty Fellowship Program award, "Learning task type and states for adaptively supporting users in complex search tasks", University of Oklahoma Office of the Vice President for Research and Partnerships, **PI**, **\$7,000**, Summer 2021

PUBLICATIONS Book Project

[B2] Liu, J. (2023). A behavioral economics approach to interactive information retrieval: Understanding and supporting boundedly rational users. Cham, Switzerland: Springer Nature.

[B1] Liu, J. & Shah, C. (2019). Interactive IR user study design, evaluation, and reporting. Synthesis Lectures on Information Concepts, Retrieval, and Services. Morgan & Claypool Publishers.

Peer-reviewed Journal Articles

[J9] Markwald, M., Liu, J. & Yu, R. (2023). Constructing and meta-evaluating state-aware evaluation metrics for interactive search systems. *Information Retrieval Journal*.

[J8] Zhang, Y. & Liu, J. (2023). Deconstructing proxy health information-seeking behavior: A systematic review. *Library and Information Science Research*. 45(3): 101250.

[J7] Wang, B. & Liu, J. (2023). Investigating the role of in-situ user expectation in Web search. *Information Processing and Management*. 60(3): 103300.

[J6] Jiang, T. & Liu, J. (2022). Reflection on future directions: A systematic review of reported limitations and solutions in interactive information retrieval user studies. *Aslib Journal of Information Management*. Ahead-of-print.

[J5] Liu, J. (2022). Toward Cranfield-inspired reusability assessment in interactive information retrieval evaluation. *Information Processing and Management*, 59(5), 103007.

[J4] Liu, J. (2021). Deconstructing search tasks in interactive information retrieval: A systematic review of task dimensions and predictors. *Information Processing and Management*, 58(3): 102522.

[J3] Sarkar, S., Mitsui, M., Liu, J., & Shah, C. (2020). Implicit information needs as explicit problems, help, and behavioral signals. *Information Processing and Management*, 57(2), 102069.

[J2]. Liu, J., Wang, Y., Mandal, S., & Shah, C. (2019). Exploring the immediate and short-term effects of peer advice and cognitive authority on Web search behavior. *Information Processing and Management*, 56(3), 1010-1025.

[J1]. Liu, J. (2017). Toward a unified model of human information behavior: An equilibrium perspective. *Journal of Documentation*, 73(4), 666-688.

Peer-reviewed Conference Papers

[C21] Wang, B. & Liu, J. (2023). Characterizing and early predicting user performance for adaptive search path recommendation. In *Proceedings of the Annual Meeting of the Association for Information Science and Technology*. [SIG USE best information behavior conference paper award]

[C20] Chen, N., Liu, J., & Sakai, T. (2023). A reference-dependent model for Web search evaluation: Understanding and measuring the experience of boundedly rational users. In *Proceedings of the ACM Web Conference 2023*. (pp. 3396-3405). New York, NY: ACM.

[C19] Liu, J. (2023). Toward a two-sided fairness framework in search and recommendation. In *Proceedings of the ACM SIGIR Conference on Human Information Interaction and Retrieval.* 10 pages. Austin, TX.

[C18] Lei, J., Bu, Y., & Liu, J. (2023). Information retrieval research in academia and industry: A preliminary analysis of productivity, authorship, impact, and topic distribution. In *iConference* 2023.

[C17]. Liu, J. & Han, F. (2023). $5-4 \neq 4$ -3: On the uneven gaps between different levels of graded user satisfaction in interactive information retrieval evaluation. In *Proceedings of 56th Hawaii International Conference on System Sciences*. Maui, HI.

[C16]. Brown, T. & Liu, J. (2022). A reference dependence approach to enhancing early prediction of session behavior and satisfaction. In *Proceedings of ACM/IEEE Joint Conference on Digital Libraries.* (pp. 1-5). Cologne, Germany.

[C15]. Liu, J. & Han, F. (2022). Matching search result diversity with user diversity acceptance in Web search sessions. In *Proceedings of ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 2473-2477). Madrid, Spain.

[C14]. Liu, J. & Shah, C. (2022). Leveraging user interaction signals and task state information in adaptively optimizing usefulness-oriented search sessions. In *Proceedings of ACM/IEEE Joint Conference on Digital Libraries* (pp. 1-11). Cologne, Germany. [Vannevar Bush best paper award nominee].

[C13]. Liu, J., & Yu, R. (2021). State-aware meta-evaluation of evaluation metrics in interactive information retrieval. In *Proceedings of the 30th ACM International Conference on Information & Knowledge Management* (pp. 3258-3262). Virtual Event, Australia.

[C12]. Liu, J. & Jung, Y. J. (2021). Interest development, knowledge learning, and interactive IR: Toward a state-based approach to search as learning. In *Proceedings of the ACM SIGIR Conference on Human Information Interaction and Retrieval* (pp. 239-248). Canberra, Australia.

[C11]. Liu, J. & Han, F. (2020). Investigating reference dependence effects on user search interaction and satisfaction. In *Proceedings of the ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 1141-1150). Xi'an, China.

[C10]. Liu, J., Sarkar, S., & Shah, C. (2020). Identifying and predicting the states of complex search tasks. In *Proceedings of the ACM SIGIR Conference on Human Information Interaction and Retrieval* (pp. 193-202). Vancouver, Canada.

[C9]. Liu, J., & Shah, C. (2019). Proactive identification of query failure. In *Proceedings of the Annual Meeting of the Association for Information Science and Technology*, 56(1), 176-185. [Best student paper award]

[C8]. Liu, J., Mitsui, M., Belkin, N. J., & Shah, C. (2019). Task, information seeking intentions, and user behavior: Toward a multi-level understanding of web search. In *Proceedings of the ACM SIGIR 2019 Conference on Human Information Interaction and Retrieval* (pp. 123-132). Glasgow, UK.

[C7]. Liu, J., & Shah, C. (2019). Investigating the impacts of expectation disconfirmation on web search. In *Proceedings of the ACM SIGIR 2019 Conference on Human Information Interaction and Retrieval* (pp. 319-323). Glasgow, UK.

[C6]. Mitsui, M., Liu, J., & Shah, C. (2018). How much is too much? Whole session vs. first query behaviors in task type prediction. In *Proceedings of the ACM SIGIR 2018 Conference on Research and Development in Information Retrieval* (pp. 1141-1144). Ann Arbor, MI.

[C5]. Mitsui, M., Liu, J., & Shah, C. (2018). The paradox of personalization: Does task prediction require individualized models? In *Proceedings of the ACM SIGIR 2018 Conference on Human Information Interaction and Retrieval* (pp. 277-280). New Brunswick, NJ.

[C4]. Mitsui, M., Liu, J., Belkin, N. J., & Shah, C. (2017). Predicting information seeking intentions from search behaviors. In *Proceedings of the ACM SIGIR 2017 Conference on Research and Development in Information Retrieval* (pp. 1121-1124). Tokyo, Japan.

[C3]. Liu, C., Liu, J., & Wei, Y. (2017). Scroll up or down? Using wheel activity as an indicator of browsing strategy across different contextual factors. In *Proceedings of the ACM SIGIR 2017 Conference on Conference Human Information Interaction and Retrieval* (pp. 333-336). Oslo, Norway.

[C2]. Wang, Y., Liu, J., Mandal, S., & Shah, C. (2017). Search successes and failures in query segments and search tasks: A field study. In *Proceedings of the 80th Annual Meeting of the Association for Information Science and Technology*, 54(1), 436-445.

[C1]. Li, Y., Liu, J. (2017). Chinese individual investors' information-seeking behavior on the Web. (10 pages). Paper presented at *iConference* 2017, Wuhan, China.

Peer-reviewed Conference Posters

[P7]. Jung, Y. J., & Liu, J. (2022). Children's interest, search, and knowledge: A pilot analysis of a STEM maker workshop. In *Proceedings of the Association for Information Science and Technology*. 59(1). [SIG USE best information behavior conference poster award]

[P6]. Wang, B., & Liu, J. (2022). Investigating the relationship between in-situ user expectations and Web search behavior. In *Proceedings of the Association for Information Science and Technology*. 59(1).

[P5]. Ghosh, S. & Liu, J. (2022). OUHCIR at the NTCIR-16 Data Search 2 Task. In *Proceedings of the NTCIR-16 Conference*. 5 pages. Tokyo, Japan.

[P4]. Wang, B., & Liu, J. (2021). Extracting the implicit search states from explicit behavioral signals in complex search tasks. In *Proceedings of the Association for Information Science and Technology*, 58(1), 854-856.

[P3]. Wang, Y., Liu, J., Mandal, S., & Shah, C. (2018). Persuasion by peer or expert for Web search. In *Proceedings of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing* (pp. 225-228). Jersey City, NJ.

[P2]. Yu, B., Ndumu, A., Liu, J. & Fan, Z. (2016). E-inclusion or digital divide: An integrated model of digital inequality. In *Proceedings of the 79th Annual Meeting of the Association for Information Science and Technology*, 53(1), 1-5.

[P1]. Liu, J., & Wang, Y. (2016). Information worth spreading: An exploration of information sharing from social Q&A to other social media platforms. In *Proceedings of the 79th Annual Meeting of the Association for Information Science and Technology*, 53(1), 1-5.

Peer-reviewed Conference Demos

[D1]. Mitsui, M., Liu, J., & Shah, C. (2018). Coagmento: Past, present, and future of an individual and collaborative information seeking platform. In *Proceedings of the 2018 Conference on Human Information Interaction and Retrieval* (pp. 325-328). New Brunswick, NJ.

Doctoral Consortia

[DC2]. Liu, J. (2019). Characterizing the stages of complex tasks. In *Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 1445-1445). Paris, France. Mentors: Dr. Gareth Jones and Dr. Noriko Kando.

[DC1]. Liu, J. (2019). A reference-dependent model of search evaluation. In *Proceedings of the ACM SIGIR 2019 Conference on Human Information Interaction and Retrieval* (pp. 405-408). Glasgow, UK. Mentor: Dr. Diane Kelly.

Workshop Paper

[W3] Hoppe, A., Yu, R., & Liu, J. (2022). IWILDS'22: Third International Workshop on Investigating Learning During Web Search. In *Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 3482-3484). Madrid, Spain.

[W2]. Hoppe, A., Yu, R., Brich, I., & Liu, J. (2021) IWILDS'21: Second international workshop on learning during Web search. In *Proceedings of the 30th ACM International Conference on Information & Knowledge Management* (pp. 4880-4881). Virtual event, Australia.

[W1]. Liu, J., Wacholder, N. (2017). Classification systems as visualization and navigational tool in online searching: A technique for supporting multi-cultural information seeking. Paper presented at *the 80th Annual Meeting of the Association for Information Science and Technology* (ASIS&T'17 SIG\CR workshop). Crystal City, VA.

INVITED TALKS [T25] "Bias-aware user modeling in intelligent search and recommendation", Data Institute for Societal Challenges, the University of Oklahoma, Nov. 9, 2023.

[T24] "Bias-aware user modeling in information search, recommendation, and human-AI interaction", University College London Computer Science Department, London, UK, Oct. 27, 2023.

[T23] "Identifying and mitigating user cognitive biases in interactive information retrieval", Keynote Talk at ACM CSCW 2023 Workshop on Understanding and Mitigating Cognitive Biases in Human-AI Collaboration, Minneapolis, MN. Oct. 14, 2023.

[T22] "Bias-aware user modeling in intelligent search and recommendation", College of Information, University of North Texas. Oct. 13, 2023.

[T21] "Bias-aware user modeling in information search, recommendation, and human-AI interaction", LexisNexis, New York. Oct. 12, 2023.

[T20] "Understanding and supporting boundedly rational users in intelligent information retrieval", Center for Intelligent Information Retrieval, Manning College of Information & Computer Sciences, University of Massachusetts Amherst, April 28, 2023.

[T19] "Understanding and supporting boundedly rational users in intelligent information retrieval and recommendation", RMIT Centre for Information Discovery & Data Analytics, March 1, 2023.

[T18] "Understanding and supporting boundedly rational users in task-based intelligent information retrieval and recommendation", Department of Information Management, Peking University, December 5, 2022.

[T17] "Understanding and supporting boundedly rational users in task-based intelligent information retrieval and recommendation", College of Science, Technology, Engineering, and Mathematics Colloquium (CSTEM) invited talk, University of Arkansas at Little Rock. September 23, 2022.

[T16] "Matching search result diversity with user diversity acceptance in Web search sessions", OU Data Scholarship Program (DSP) Research Colloquium, May 5, 2022

[T15] "Understanding boundedly rational users in task-based intelligent information retrieval", IST invited seminar talk, George Mason University, March 24, 2022

[T14] "Understanding boundedly rational users in task-based intelligent information retrieval", OU Four-Year Research Engagement (FYRE) Program Talk, March 2, 2022

[T13] "Understanding boundedly rational users in task-based intelligent information retrieval", The Information School, University of Wisconsin-Madison, Oct. 29, 2021

[T12] "User-centered interactive information retrieval meta-evaluation", School of Information Resources Management, Renmin University of China, Oct. 22, 2021

[T11] "Understanding boundedly rational users in task-based intelligent information retrieval", College of Information, University of North Texas, July 19, 2021

[T10] "User-centered information retrieval evaluation and meta-evaluation", School of Information Resources Management, Renmin University of China, Oct. 22, 2021

[T9] "Investigating reference dependence effects on user search interaction and satisfaction", Information & Innovation Lab, University of South Australia, May 4, 2021

[T8] "Investigating reference dependence effects on user search interaction and satisfaction", InfoSeeking Lab, University of Washington iSchool, Dec. 9, 2020

[T7] "Investigating reference dependence effects on user search interaction and satisfaction", Guest lecture for SLIS Research Colloquium, University of Oklahoma, Nov. 20, 2020

[T6] "User studies in LIS research", Guest lecture for LS550 Research Methodology in Library Science, Clarion University of Pennsylvania, PA, September 13, 2020

[T5] "Systematic cognitive biases in human information interaction", Business School, Nankai University, May 22, 2020

[T4] "Going from "what" and "how" to "why": Understanding tasks, intentions, and search obstacles in information search interactions", School of Information Management, Wuhan University, December 17, 2019

[T3] "Going from "what" and "how" to "why": Understanding tasks, intentions, and search obstacles in information search interactions", Department of Information Management, Peking University, December 11, 2019

[T2] "Going from "what" and "how" to "why": Understanding tasks, intentions, and search obstacles in information search interactions", School of Government, Beijing Normal University, December 10, 2019

[T1] "Going from "what" and "how" to "why": Understanding tasks, intentions, and search obstacles in information search interactions", School of Information Resources Management, Renmin University of China, December 9, 2019

TEACHING EXPERIENCE

Instructor

- PhD level
 - LIS 6543: Social and Community Informatics (Fall 2023, OU)

Master of Library and Information Studies/Informatics

- LIS 5053: Information Seeking and Use (Fall 2023, OU)
- LIS 5053: Information Seeking and Use (Spring 2023, OU)
- LIS 5053: Information Seeking and Use (Spring, 2021, OU)
- LIS 4/5213: Social Informatics (Spring, 2022, OU)
- MI 564: Machine Learning for Data Science (master-level, Spring 2020, RU)

Bachelor of Science in Information Science and Technology (Undergraduate Level)

- LIS 3063: Essentials of IT and Informatics (Spring 2023, OU)
- LIS 4/5970: Evaluating Interactive Information Systems with Users (Fall 2022, OU)
- LIS4673/5673: Introduction to Information Visualization (Fall, 2021, OU)
- LIS4673/5673: Introduction to Information Visualization (Fall, 2021, OU)
- **ITI 220:** Retrieving and Evaluating Electronic Information (Fall 2019, RU)
- ITI 200: Social Informatics (Summer 2019, RU)
- ITI 200: Social Informatics (Spring 2019, RU)
- ITI 220: Retrieving and Evaluating Electronic Information (Fall 2018, RU)

Course material developed/revised significantly for:

- Evaluating Interactive Information Systems with Users (new course)
- Social and Community Informatics (PhD level, new course)
- Social Informatics (new course)
- Introduction to Information Visualization (significant changes made)

Teaching Assistant

- ITI 103: Information Technology and Informatics (Spring 2018, RU)
- MI 510: Human Information Behavior (Fall 2017, RU)

Teaching Training

- Design Your Own Course (Syllabus development, Assignments and Projects, and Active Learning Strategies). Fall 2018, RU.
- Introduction to College Teaching. Spring 2018, RU.

Research Student Advising

- PhD student
- 1. Ben Wang (LIS, OU, fall 2021-), primary advisor
- 2. Mahdieh Nazari (LIS, OU, fall 2022-), primary advisor
- 3. Satanu Ghosh (LIS, OU, fall 2021-2022), committee member
- Master student
- 1. Meghana Nagendra (M.S. Data Science, 2021)
- 2. Tyler Brown (M.S. Data Science, 2021)
- 3. Ruth Davenport (M.S. Data Science, 2021)
- 4. Darius Jones (M.S. Data Science, 2022)
- 5. Babak Mohammadizadeh Khoshroo (M.S. Data Science; PhD Philosophy, 2023)
- 6. Julie Torgerson (MLIS, Graduate Assistant, 2020-2021)
- Undergraduate student
- 1. Jamshed Karimnazarov (Computer Science, 2023 -)
- 2. Brandon Robertiello (Computer Science, 2023-)
- 3. Jack Graham (Economics, 2023-)
- 4. Keon Moradi (Computer Science and Mathematics, 2022-)
- 5. Zeming Hu (Petroleum Engineering, 2022-)
- 6. Pragya Chatterjee (BSIST, 2021)
- 7. Marc Hanna (Computer Science, 2021)
- Visitors/external student collaborators
- 1. Yuhao Zhang (Visiting Scholar/PhD student, Renmin University of China)
- 2. Tianji Jiang (PhD student, UCLA)
- 3. Shawon Sarkar (PhD student, University of Washington)
- 4. Nuo Chen (Master student, Waseda University)
- 5. Jiaqi Lei (Undergraduate student, Peking University)
- 6. Qingyang Wang (Undergraduate student, Rutgers University)

SERVICE Organizing and Chairing Activities

- 1st ASIS&T SIG AI research symposium, Organizer
- CHIIR 2023 IWILDS Workshop, Co-Organizer
- SIGIR 2022 IWILDS Workshop, Co-Organizer
- ASIS&T SIG AI Chair 2022-2023
- SIGIR 2021 Registration Chair
- CIKM 2021 IWILDS Workshop, Co-Organizer
- iConference 2021 Workshop, Co-Chair
- ASIS&T Research Engagement Committee Member 2020-2021
- ASIS&T 2020 SIG USE Symposium Co-Chair
- ASIS&T SIG USE Communications Officer 2017-2019

Grant Review Services

- Institute of Museum and Library Services (IMLS) Reviewer 2022
- National Science Foundation (NSF) Reviewer 2021

Journal Reviewer

- Journal of Information Science
- ACM Transactions on Information Systems (TOIS)

- Aslib Journal of Information Management
- Library and Information Science Research
- Journal of the Association for Information Science and Technology (Selected as top peer reviewer for JASIST, 2021)
- Information Processing and Management
- Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies

Program Committee

- ACM SIGKDD (2022)
- WSDM (2022, 2023)
- ACM SIGIR (2021, 2022, 2023)
- Senior Member, SIGIR Artifact Evaluation Committee (AEC) 2021-
- ACM CHIIR (2020, 2021, 2022, 2023, 2024)
- ASIS&T Annual Meeting (2018, 2019, 2020, 2021, 2022)
- ALISE (2020)
- iConference (2020)

Service to University of Oklahoma

- Student Scholarships and Awards Committee, OU CAS (2021-2023)
- Strategic Planning Committee, OU SLIS (2021-2022)
- Faculty Search Committee, OU SLIS (2021-2022)
- Doctoral Program Committee, OU SLIS (2020-2021)
- Undergraduate Studies Committee, OU SLIS (2020-2023)
- Research Liaison, OU SLIS (2020-2021)

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