

The Second Search Futures Workshop at ECIR'25

Charles Clarke¹[0000-0001-8178-9194], Paul Kantor²[0000-0002-7985-8039], Adam
Roegiest³[0000-0003-1265-8881],
Ian Soboroff⁴[0000-0003-2363-3014], Johanne Trippas⁵[0000-0002-7801-0239], and
Zhaochun Ren⁶[0000-0002-9076-6565]

¹ University of Waterloo, Canada.

² Rutgers University, USA.

³ Zuva, Canada.

⁴ National Institute of Standards and Technology, USA.

⁵ RMIT University, Australia.

⁶ Leiden University, Netherlands.

Abstract. The Information Retrieval (IR) field is undergoing rapid transformation, charged by advancements in Artificial Intelligence (AI) and evolving research practices. As IR redefines its role within the broader computing and information sciences, this is a crucial moment to reflect as ECIR community on its future direction. Critical discussions will focus on the challenges and opportunities ahead, and the emerging research questions reshaping how we understand and approach search technologies. This second Search Futures workshop will serve as a forum for the IR community to exchange ideas, voice concerns, and propose bold strategies to strengthen and move the field forward.

Keywords: Search · Information retrieval · Artificial intelligence · Generative Information Retrieval.

1 Introduction and Motivation

The Information Retrieval (IR) field is experiencing significant transformation due to ongoing advancements and breakthroughs in artificial intelligence, as well as shifts in the broader research landscape. This period of change has brought a sense of uncertainty to our field and community, prompting us to reconsider our role and importance within the broader context of computing and information sciences. This moment presents a valuable opportunity for us to gather and engage in meaningful discussions about the future direction of our field. We face many challenges and risks ahead, but also new opportunities. Bold research is needed to drive us toward the goal of fully autonomous intelligent assistants [5] or the next generation “memex machine” [3].

This second Search Futures workshop provides a space for the IR community to discuss critical issues openly. It is a forum to voice concerns, share ideas, and propose innovations that strengthen our field and the community behind it.

We face critical questions at the crossroads of technological innovation and scholarly reflection, much like those raised in the first Search Futures workshop at ECIR'24 [1, 2]. *How can we leverage AI to improve IR? What safeguards are necessary to protect data privacy and integrity? How do we ensure our research benefits everyone? How can we design systems that promote fairness and minimize bias in search results? What role should user agency and transparency play in developing intelligent retrieval systems?* These are just some of the urgent challenges shaping the future of IR.

This workshop is dedicated to exploring the future of search. It offers a platform for the community to discuss and shape the next directions in research. Our goal is to ensure that IR remains vital and relevant while pushing the boundaries of discovery. We aim to drive innovation and tackle emerging challenges in our field by working together.

2 Workshop Goals and Objectives

The Second Search Futures Workshop aims to provide a much-needed forum for the IR community to continue discussing emerging challenges to the field and community. Our goals are to:

- Continue our workshop series for open conversations about possible Search Futures,
- Provide a forum at ECIR to discuss the pressing and emerging issues our field faces, and,
- Produce a report detailing the initial outcomes of this second workshop on Search Futures.
- Continue this ambitious series for Search Future workshops at subsequent IR conferences to include further and wider perspectives.

2.1 Topics of Interest

Short position statements from participants will be solicited through direct invitations and an open call to the ECIR community. From the submitted position statements, we will select a diverse and representative subset to present their perspectives during the workshop. Our aim is to attract a wide array of viewpoints on the future of search. Topics of interest may include similar subjects like last year's workshop [2], but are not limited to:

- IR and related fields
 - What the field of IR is tackling, should be tackling, is not tackling,... and is such research is even important?
 - What is IR in the context of recommender systems, NLP, ML, AI, etc.?
 - What are the core questions we are answering?
- IR in the age of generative AI
 - How generative AI is changing the nature and relevance of search?
 - How can we distinguish originals from derivatives, real from fake, etc.?

- When everything can be generated, what is a document? What are we retrieving?
- IR and community
 - How can we build and grow the IR community?
 - How can we support newer community members?
 - What should the scope and remit of IR conferences and journals be?
- IR and the business
 - What are the new economics of IR?
 - How does conversational search change current business models?
 - How do traditional media and content-based models fit into the emerging landscape?
 - Can IR further optimize workplace productivity?
- IR ethics, trust and responsibility
 - What is the duty / responsible of an IR system?
 - How can we trust IR systems if they make up everything?
 - How environmentally responsible are the IR systems we are making?
- IR and people, users, consumers, creators,..
 - Are creators still needed in the age of generative AI?
 - Is IR helping overcome the digital divide?
 - Is IR addressing the disparity in information access, especially in marginalized communities?
- Emerging technologies and trends
 - How can IR systems leverage blockchain technology for data integrity and transparency?
 - What impact might quantum computing have on the future of IR?

3 Workshop Format and Structure

We propose a full-day workshop. We will issue a *call for speakers*, rather than papers. Participants are invited to submit a brief position statement (abstract-only) outlining the key issues or challenges they wish to present at the ECIR workshop. These statements will help us anticipate and design our breakout sessions. To keep the process simple and inclusive, submissions will be handled via EasyChair. This flexible approach was used for the first workshop edition and is visualised in Figure 1.

During the workshop, the first part of the day will be dedicated to invited and selected speakers setting the scene based on the submitted position statements. Then, after lunch, we will have several breakout sessions where organizers will lead the groups to discuss the issues that surfaced during the scene setting. We will also include a virtual breakout session that will be run in parallel to include attendees who can not attend in person. During the breakout sessions, we will use Google Documents to take notes and write up the discussions collaboratively. After the breakout sessions, we plan to reconvene to share the breakout findings and finish with a panel-based discussion.

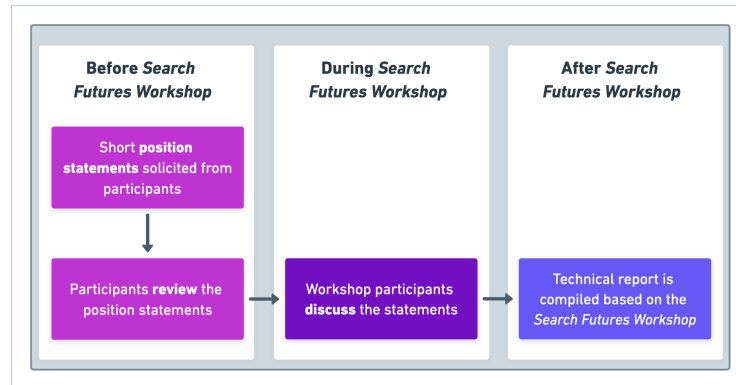


Fig. 1. *Search Futures Workshop* Overview from [2].

3.1 Workshop Outputs and Follow-ups

At first pass, stemming from this workshop, we will compile a SIGIR Forum Article to disseminate the workshop findings to the broader community, similar to last year’s edition [1]. We will use a similar collaborative approach to writing up the article as we have used in previous workshops (such as such as FACTS-IR at SIGIR 2019 [4], Future Conversations Workshop at CHIIR 2021 [6], and the ECR’s Roundtable for Information Access Research (ECRs4IR 2022) [7]), where participants were contributors and co-authors for the article.

3.2 Intended Audience

ECIR, as the leading venue for IR in Europe, is the ideal forum to bring together key IR researchers to discuss the future of search. Our goal is to engage both long-standing and new members of the community in a lively discussion while also welcoming perspectives from outside the field and those working at its intersections with other disciplines. Attendance is open to all, and we will select speakers to ensure a diversity of viewpoints. We anticipate around 30-50 participants to help shape and define the future of search, similar to last year.

4 Organisers

Charlie Clarke is a Professor in the School of Computer Science at the University of Waterloo, Canada. His research focuses on data intensive tasks and efficiency, including search, ranking, question answering, and other problems involving human language data at scale. In addition to his academic experience, he has worked on search engine technology for both Microsoft Bing and Facebook Search. He has previously co-organized workshops at ECIR (2014, 2011), SIGIR (2016, 2015, 2013, 2012), WSDM (2012) and CHIIR (2023, 2020).

Paul Kantor is Distinguished Professor (Emeritus) of Information Science at Rutgers, and an Honorary Associate in the Department of Industrial and Systems Engineering at the University of Wisconsin Madison. His work has primarily focused on evaluation of Information (Retrieval) Systems, with an emphasis on relating that evaluation to the specific needs of the system's user at the moment. He also developed early recommendation systems called ANLI (pre WWW) and AntWorld, which have vanished without a trace. That research has been supported by the US NSF, Department of Education, DARPA, and NATO.

Adam Roegiest is the VP of Research and Technology at Zuva, a Toronto-based legal AI startup. Adam's research has focused on the application of information retrieval and machine learning technologies to legal retrieval tasks. More recently, he has extended his research into how these technologies interact with human-computer interaction and accessibility. Adam previously organised both iterations of the TREC Total Recall track, one iteration of the TREC Real-Time Summarization track, and a workshop at CHIIR 2024. Adam is also a steering committee member for CHIIR.

Ian Soboroff is a computer scientist and leader of the Retrieval Group at the National Institute of Standards and Technology (NIST). He directs the Text Retrieval Conference (TREC) program, a long-running collaborative workshop that develops datasets and methods for IR evaluation.

Johanne Trippas is a Vice-Chancellor's Senior Research Fellow at RMIT University, specializing in intelligent systems, focusing on digital assistants and conversational information seeking. Her research aims to enhance information accessibility through conversational systems, interactive information retrieval, and human-computer interaction. Additionally, Johanne is part of the NIST TREC program committee and is an ACM CHIIR steering committee member. She serves as vice-chair of the SIGIR Artifact Evaluation Committee and workshop chair for ACM CHIIR'25. She has organized the ACM Conversational User Interfaces (CUI'24) conference, workshops (CHIIR'20-22, '24, ECIR'24), a TREC Track (CAsT'22), and tutorials (CHIIR'21, SIGIR'22, WebConf'23, ECIR'24, and CHIIR'25).

Zhaochun Ren is an Associate Professor at Leiden University. His research interests focus on joint research problems in information retrieval and natural language processing, with an emphasis on conversational information seeking, question-answering, and recommender systems. He aims to develop intelligent systems that can address complex user requests and solve core challenges in both information retrieval and natural language processing towards that goal. In addition to his academic experience, he worked on e-commerce search and recommendation at JD.com for 2+ years. He has co-organized workshops at SIGIR (2020) and WSDM (2019, 2020).

References

1. Azzopardi, L., Clarke, C.L., Kantor, P., Mitra, B., Trippas, J.R., Ren, Z., Alian-nejadi, M., Arabzadeh, N., Chandrasekar, R., de Rijke, M., et al.: Report on the search futures workshop at ecir 2024. In: ACM SIGIR Forum. vol. 58, pp. 1–41. ACM New York, NY, USA (2024)
2. Azzopardi, L., Clarke, C.L., Kantor, P.B., Mitra, B., Trippas, J.R., Ren, Z.: The search futures workshop. In: European Conference on Information Retrieval. pp. 422–425. Springer (2024)
3. Davies, S.: Still building the memex. *Commun. ACM* **54**(2), 80–88 (feb 2011). <https://doi.org/10.1145/1897816.1897840>, <https://doi.org/10.1145/1897816.1897840>
4. Olteanu, A., Garcia-Gathright, J., de Rijke, M., Ekstrand, M.D., Roegiest, A., Lipani, A., Beutel, A., Olteanu, A., Lucic, A., Stoica, A.A., Das, A., Biega, A., Voorn, B., Hauff, C., Spina, D., Lewis, D., Oard, D.W., Yilmaz, E., Hasibi, F., Kazai, G., McDonald, G., Haned, H., Ounis, I., van der Linden, I., Garcia-Gathright, J., Baan, J., Lau, K.N., Balog, K., de Rijke, M., Sayed, M., Panteli, M., Sanderson, M., Lease, M., Ekstrand, M.D., Lahoti, P., Kamishima, T.: FACTS-IR: Fairness, accountability, confidentiality, transparency, and safety in information retrieval. *SIGIR Forum* **53**(2), 20–43 (Mar 2021)
5. Russell, S.: *Human compatible: AI and the problem of control*. Penguin Uk (2019)
6. Spina, D., Trippas, J.R., Thomas, P., Joho, H., Byström, K., Clark, L., Craswell, N., Czerwinski, M., Elsweiler, D., Frummet, A., et al.: Report on the future conversations workshop at CHIIR 2021. In: ACM SIGIR Forum. vol. 55, pp. 1–22. ACM New York, NY, USA (2021)
7. Trippas, J., Maxwell, D., Alqatan, A., Boom, M., Chavula, C., Crescenzi, A., Ibáñez, L.D., Meyer, S., Ortloff, A.M., Palani, S., et al.: Report on the 1st Early Career Researchers’ Roundtable for Information Access Research (ECRs4IR 2022) at CHIIR 2022. In: ACM SIGIR Forum. vol. 56, pp. 1–10. ACM New York, NY, USA (2023)