The Search Futures Workshop

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Abstract. The field and community of Information Retrieval (IR) are changing and evolving in response to the latest developments and advances in Artificial Intelligence (AI) and research culture. As the field and community re-oriented and re-consider its positioning within computing and information sciences more generally – it is timely to gather and discuss more seriously our field's vision for the future – the challenges and threats that the community and field faces – along with the bold new research questions and problems that are arising and emerging as we re-imagine search. This workshop aims to provide a forum for the IR community to voice and discuss their concerns and pitch proposals for building and strengthening the field and community.

Keywords: Search · Information retrieval · Artificial intelligence

1 Introduction and Motivation

The field of Information Retrieval (IR) is undergoing a profound transformation, spurred by the continual evolution and breakthroughs in the realm of artificial intelligence and the broader changing research landscape. This reformation period finds our field and community in a state of uncertainty, as we contemplate and reevaluate our role and significance within the broader context of computing and information sciences. This juncture in our journey serves as an opportune moment to convene and engage in a deep and purposeful dialogue concerning the future trajectory of our field. We must collectively confront the myriad challenges and potential threats that loom on the horizon, all while embracing the newfound opportunities and bold research inquiries that emerge as we embark on a re-imagined quest for the next generation "memex machine"[1].

The purpose of this workshop is to serve as a dedicated platform for the IR community to candidly express and deliberate upon the issues that weigh on our collective conscience. It is a forum where we can voice our concerns and

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brainstorm and present innovative proposals aimed at fortifying and enriching our field and the community that sustains it.

As we stand at the intersection of technological innovation and scholarly introspection, we find ourselves confronted with a multitude of pertinent questions. *How can we harness the power of AI to enhance the effectiveness of information retrieval? What safeguards do we need to put in place to protect the integrity and privacy of the data we handle? How can we ensure that the fruits of our research are accessible and beneficial to all members of society?* These are just a few examples of the pressing issues we face as we navigate this dynamic, new IR landscape.

In our pursuit of "*search futures*", this workshop aims to provide a forum for the community to discuss and contribute to our collective agenda for the research directions and field. We hope that together, we can chart a course that not only safeguards IR's continued relevance and vitality but also propels it into uncharted territories of discovery and exploration.

2 Workshop Goals and Objectives

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

- 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 first 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 invitation and an open call to the ECIR community. We will select a diverse and representative subset from the position statements submitted to present their position/perspective during the workshop. We would like to attract a broad range of positions about the future of search. Topics of interest may include, 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 any more in the context of recommender systems, NLP, ML, AI, etc.?
  - What are the core research questions we should be 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?
  - Is a bigger, more diverse community better?
  - What are our conferences turning into?
  - Where are all the core IR papers?
  - 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/content-based models fit into the emerging landscape?
  - How can IR further optimize workplace productivity?
- IR ethics, trust and responsibility
  - What is the duty/responsible of an IR system?
  - If I want to see more, should the system give it to me?
  - 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?
  - Should IR systems protect users from information overload?
  - What is the future of results presentation?
  - How can we develop IR systems integrated with IoT?
  - How do information systems influence user's emotions?

3 Organisers

To run the workshop, we have six organizers, five of whom can confirm that they will attend ECIR in person. Our organization team aims to bring together the IR Oldies with the up-and-coming stars in our field from industry, academia, and around the globe.

Leif Azzopardi is an Associate Professor in the Department of Computer and Information Sciences at the University of Strathclyde, Glasgow. His research focuses on building models and metrics for interactive information retrieval with a focus on model users in the lab and in the wild. Recently, he has been working with Microsoft Search and AI on (conversational) search. He has organized numerous IR events e.g. PC Chair of FDIA (2008–2015), PC Chair of IIiX 2014, PC Chair SimInt 2010 @ ACM SIGIR, and PC Chair of ICTIR 2008, General Chair of ACM CHIIR 2019 and PC Chair of ECIR 2019.

Charles L. A. 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.

Bhaskar Mitra is a Principal Researcher at Microsoft Research based in Montreal, Canada. His research focuses on AI-mediated information and knowledge access and questions of fairness and ethics in the context of these socio-technical systems. Before joining Microsoft Research, he worked on search technologies at Bing for 15+ years. He is serving as the ACM SIGIR Community Relations Coordinator and on the NIST TREC program committee. He has co-organized several workshops (Neu-IR @ SIGIR 2016–2017 and HIPstIR 2019), shared evaluation tasks (TREC Deep Learning Track 2019–2023, TREC Tip-of-the-Tongue Track 2023, and MS MARCO ranking leader boards), and tutorials (WSDM 2017–2018, SIGIR 2017, and ECIR 2018).

Johanne Trippas is a Vice-Chancellor's 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 currently 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, tutorial chair for ECIR'24, general chair of the ACM CUI'25, and ACM SIGIR-AP'23 proceedings chair. She has organized workshops (CHIIR'20–22), a TREC Track (CAsT'22), and tutorials (CHIIR'21, SIGIR'22, and WebConf'23).

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).