Guest editorial: Special issue on ECIR 2021

Djoerd Hiemstra[1] and Marie-Francine Moens[2]

[1]Radboud University, The Netherlands.
[2]Katholieke Universiteit Leuven, Belgium.

Keywords: Information Retrieval

1 Introduction

The 43rd European Conference on Information Retrieval, ECIR 2021, was supposed to take place as an in-person conference in Lucca, Italy. Due to the COVID-19 pandemic, ECIR 2021 was held entirely online from March 28 to April 1, 2021. The conference programme contained full paper presentations, poster presentations, system demonstrations, eight tutorials, five workshops, an industry event, a doctoral consortium, a reproducibility track, a panel on open access publishing and several online social events.

For this special issue, we asked the authors of eight of the ECIR 2021 full papers that had the best reviewing scores to submit an extended version of their paper. This led to five papers that are published in this special issue of the Information Retrieval Journal. The extended papers contain at least 30% new content. Examples of extensions are enhancements that improve the techniques described in the ECIR 2021 paper; as well as tests on additional datasets that reveal behaviors that differ from the originally published claims and that provide further insights into the methods being described. Among the papers in this special issue are extensions of two papers that received an award at ECIR 2021.

2 Papers in this special issue

Guglielmo Faggioli and colleagues from the University of Padova and RMIT University propose *sMARE: a New Paradigm to Evaluate and Understand Query Performance Prediction Methods*. sMARE improves the ability of evaluation methods to distinguish differences between query performance prediction

algorithms, while also measuring the impact of individual components of query performance prediction approaches. Compared to their ECIR 2021 paper [1], which received the ECIR 2021 best paper award, the special issue paper contains among other things additional analysis of score tie-breaking strategies; it adds a comparison of five additional approaches for computing rank error; and it contains a deeper statistical analysis of the performance based on multiple factors.

Rafael Ferreira and colleagues from Universidade NOVA de Lisboa wrote *Open-domain Conversational Search Assistants: The Transformer is All You Need*, a paper that describes a full end-to-end conversational search system that returns summaries as answers for each turn in the conversation. The paper extends the ECIR 2021 paper [2] among other things by a new user-study that confirms the need for the conversational search paradigm, and an evaluation of the performance of answer generation. Interestingly, the paper comes with an on-line chat bot called Wiki Wizard.

Robert Litschko and colleagues from the University of Mannheim and the University of Cambridge present *On Cross-Lingual Retrieval with Multilingual Text Encoders*, a paper describing the results of extensive experiments with innovative embeddings architectures for cross-language IR. The paper extends the ECIR 2021 paper [3] as follows: It adds a supervised IR setting, investigating how relevance judgments can be leveraged to fine-tune supervised rankers based on multilingual text encoders. It also adds a novel localized relevance matching approach for document retrieval.

Shahrzad Naseri and colleagues from the University of Massachusetts Amherst, the University of Glasgow, and the Max Planck Institute for Informatics present *CEQE to SQET: A Study of Contextualized Embeddings for Query Expansion*, a paper that describes new query expansion approaches where expansion terms depend explicitly and directly on the initial query, instead of indirectly via the pseudo-relevant documents. The paper extends the ECIR 2021 paper [4] with additional experiments on the TREC Complex Answer Retrieval dataset, and it proposes a previously unpublished contextual expansion model called SQET.

Alexandre Salle and colleagues from the Federal University of Rio Grande do Sul, Amazon Seattle, and Emory University present *CoSearcher: Studying the Effectiveness of Conversational Search Refinement and Clarification through User Simulation*. CoSearcher is a simulation framework for testing refinement approaches in conversational search. CoSearcher supports different assumptions about users, modelling their cooperativeness and their patience. The paper shows that simulator-based approaches can be valuable for enabling faster progress in the field. Compared to their ECIR 2021 paper [5], which received the ECIR 2021 industry impact award, the special issue paper includes among other things additional experimental results for facets, and additional work on learning from negative user feedback.

3 Conclusion

This is the second special issue resulting from the memorandum of agreement between the BCS IRSG that organizes ECIR and the Springer Information Retrieval Journal editorial board. We are proud to see five excellent papers as a result from this cooperation. Many thanks go out to the anonymous reviewers that helped the authors to substantially improve their work.

References

[1] Faggioli, G., Zendel, O., Culpepper, J.S., Ferro, N., Scholer, F.: An enhanced evaluation framework for query performance prediction. In: Advances in Information Retrieval; 43rd European Conference on Information Retrieval Research, ECIR 2021, pp. 115–129. Springer, (2021)

[2] Ferreira, R., Leite, M., Semedo, D., Magalhaes, J.: Open-domain conversational search assistant with transformers. In: Advances in Information Retrieval; 43rd European Conference on Information Retrieval Research, ECIR 2021, pp. 130–145. Springer, (2021)

[3] Litschko, R., Vulić, I., Ponzetto, S.P., Glavaš, G.: Evaluating multilingual text encoders for unsupervised cross-lingual retrieval. In: Advances in Information Retrieval; 43rd European Conference on Information Retrieval Research, ECIR 2021, pp. 342–358. Springer, (2021)

[4] Naseri, S., Dalton, J., Yates, A., Allan, J.: Ceqe: Contextualized embeddings for query expansion. In: Advances in Information Retrieval; 43rd European Conference on Information Retrieval Research, ECIR 2021, pp. 467–482. Springer, (2021)

[5] Salle, A., Malmasi, S., Rokhlenko, O., Agichtein, E.: Studying the effectiveness of conversational search refinement through user simulation. In: Advances in Information Retrieval; 43rd European Conference on Information Retrieval Research, ECIR 2021, pp. 587–602. Springer, (2021)