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Personalization of information retrieval model via user search behaviours for ranking document relevance

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When using Information Retrieval (IR) systems, users often present search queries made of *ad-hoc* keywords. It is then up to information retrieval systems (IRS) to obtain a precise representation of user's information need, and the context of the information. This research study investigates optimization of IRS to individual information needs in order of relevance. The research addressed development of algorithms that optimize the ranking of documents retrieved from IRS. In this paper, we present two aspects of context-awareness in IR: Firstly, the design of context of information. The context of a query determines retrieved information relevance. Thus, executing the same query in diverse contexts often leads to diverse result rankings. Secondly, the relevant context aspects should be incorporated in a way that supports the knowledge domain representing users' interests. In this paper, the use of evolutionary algorithms is incorporated to improve the effectiveness of IRS. A context-based information retrieval system is developed whose retrieval effectiveness is evaluated using precision and recall metrics. The results demonstrate how to use attributes from user interaction behaviour to improve the IR effectiveness.

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