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;div id=content;
;div id=menu;

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- [[../HOME/INDEX.HTML](#)]HOME
- [[../PUBLICATIONS/INDEX.HTML](#)]PUBLICATIONS
- [[../RESEARCH/INDEX.HTML](#)]RESEARCH AND CODE
- [[../ARCHIVES/INDEX.HTML](#)]ARCHIVE
- [[../ABOUT/INDEX.HTML](#)]ABOUT ME

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# On Including the User Dynamic in Learning to Rank

Apr. 12 2017

Accepted at **SIGIR 17: ACM Conference on Research and Development in Information Retrieval** [1].


**Abstract.** Ranking query results effectively by considering user past behaviour and preferences is a primary concern for IR researchers both in academia and industry. In this context, LtR is widely believed to be the most effective solution to design ranking models that account for user-interaction features that have proved to remarkably impact on IR effectiveness. In this paper, we explore the possibility of integrating the user dynamic directly into the LtR algorithms. Specifically, we model with Markov chains the behaviour of users in scanning a ranked result list and we modify LAMBDA-MART, a state-of-the-art LtR algorithm, to exploit a new discount loss function calibrated on the proposed Markovian model of user dynamic. We evaluate the performance of the proposed approach on publicly available LtR datasets, finding that the improvements measured over the standard algorithm are statistically significant.

## section\*References

- [1] Nicola Ferro, Claudio Lucchese, Maria Maistro, and Raffaele Perego. On including the user dynamic in learning to rank. In *SIGIR '17: Proceedings of the 40th International ACM SIGIR Conference on Research and Development in Information Retrieval*, 2017.

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