

Analyzing the usefulness of the user's browser history and query history for query suggestions

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A query suggestion mechanism is an important feature of an information retrieval engine. It saves user's keystrokes when performing a search and sometimes it offers query expressions more relevant to the user's information need. Query suggestion and query auto-completion are very similar. Query suggestion is an enhanced, proposed query that the user might be looking for, whereas an auto-completion is the possible query term that the user might want to type immediately after he started typing the first letter. Basically, we can say that auto-completion is the first item from the query suggestions list. Query suggestions and query auto-completions are usually computed at the server-side by the search engine using a form of *Most Popular Completion* algorithm.

In this work, we want to use the personal user history and evaluate its usefulness for generating personal query suggestions at the client-side, in the browser. For the personal user history we consider the user's browsing history (i.e. web pages visited by the user in the past) and the user's query history (i.e. queries submitted by the user to the search engine in the past). We collect this history data using a browser plugin that we developed. We then evaluate what percent of the queries submitted by the user to the search engine can be predicted from this personal user history data.

References

- [1] Ryen W. White and Steven M. Drucker. Investigating behavioral variability in web search. In Proceedings of the 16th International Conference on World Wide Web, WWW '07, pages 21-30, New York, NY, USA, 2007. ACM.
- [2] Holger Bast and Ingmar Weber. Type less, find more: Fast auto-completion search with a succinct index. In Proceedings of the 29th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR '06, pages 364-371, New York, NY, USA, 2006. ACM.
- [3] Ziv Bar-Yossef and Naama Kraus. Context-sensitive query auto-completion. In Proceedings of the 20th International Conference on World Wide Web, WWW '11, pages 107-116, New York, NY, USA, 2011. ACM.
- [4] Huanhuan Cao, Daxin Jiang, Jian Pei, Qi He, Zhen Liao, Enhong Chen, and Hang Li. Context-aware query suggestion by mining click-through and session data. In Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD '08, pages 875-883, New York, NY, USA, 2008. ACM.
- [5] Jyun-Yu Jiang, Yen-Yu Ke, Pao-Yu Chien, and Pu-Jen Cheng. Learning user reformulation behavior for query auto-completion. In Proceedings of the 37th International ACM SIGIR Conference on Research and Development in Information Retrieval, SIGIR '14, pages 445-454, New York, NY, USA, 2014. ACM.