AN APPLICATION OF MACHINE LEARNING TECHNIQUES TO INTERACTIVE, CONSTRAINT-BASED SEARCH

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ABSTRACT

Search engine users frequently place additional constraints on search results that are not included in the user's original query. To respond to these additional constraints, search engine designers frequently add an "advanced search" page. On these pages, the user supplies a set of constraints for the result items. While this is certainly more useful, it relies on two assumptions: that the user knows these constraints prior to the search, and that the constraints are independent. This is not always the case.

This work presents a method to use an existing search engine to create an interactive, constraint-based search: the Query Expansion and Refinement Process (QUERP). In addition, this work provides an example of the method as applied to the popular eBay auction site. The experimental results show that using QUERP to provide an interactive, constraint-based search has the potential to provide higher precision and recall than the original search engine.