A System for Perspective-Aware Search

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Abstract

Traditional search engines fail to capture the notion of "perspective" in their search results and at times present the results skewed towards a particular topic. Under most of these cases even query reformulation fails to retrieve desired search results and the underlying reason for such failure is often the bias within the document collection itself (e.g., news articles). A perspective-aware search interface enabling users to look into search results for some "perspective" terms may be of great use for certain information needs. In this paper we describe such a system.

Introduction

- Consider the case of a user who wishes to find more about a certain event (say, a bomb attack in a certain region). The search results returned contain a majority of news reports blaming Islam relating it with terrorism in most of the cases. This prompts the user to explicitly evaluate how much Islam is related to terrorism in the returned search results.
- Consider the case of a user who wishes to find out about roles and rights of women in Islam but the search engine returns articles that contain a high amount of terms highlighting oppression against women instead of women rights and roles. In this case the user is prompted to check the correlation between women and oppression within the search results that have been returned.
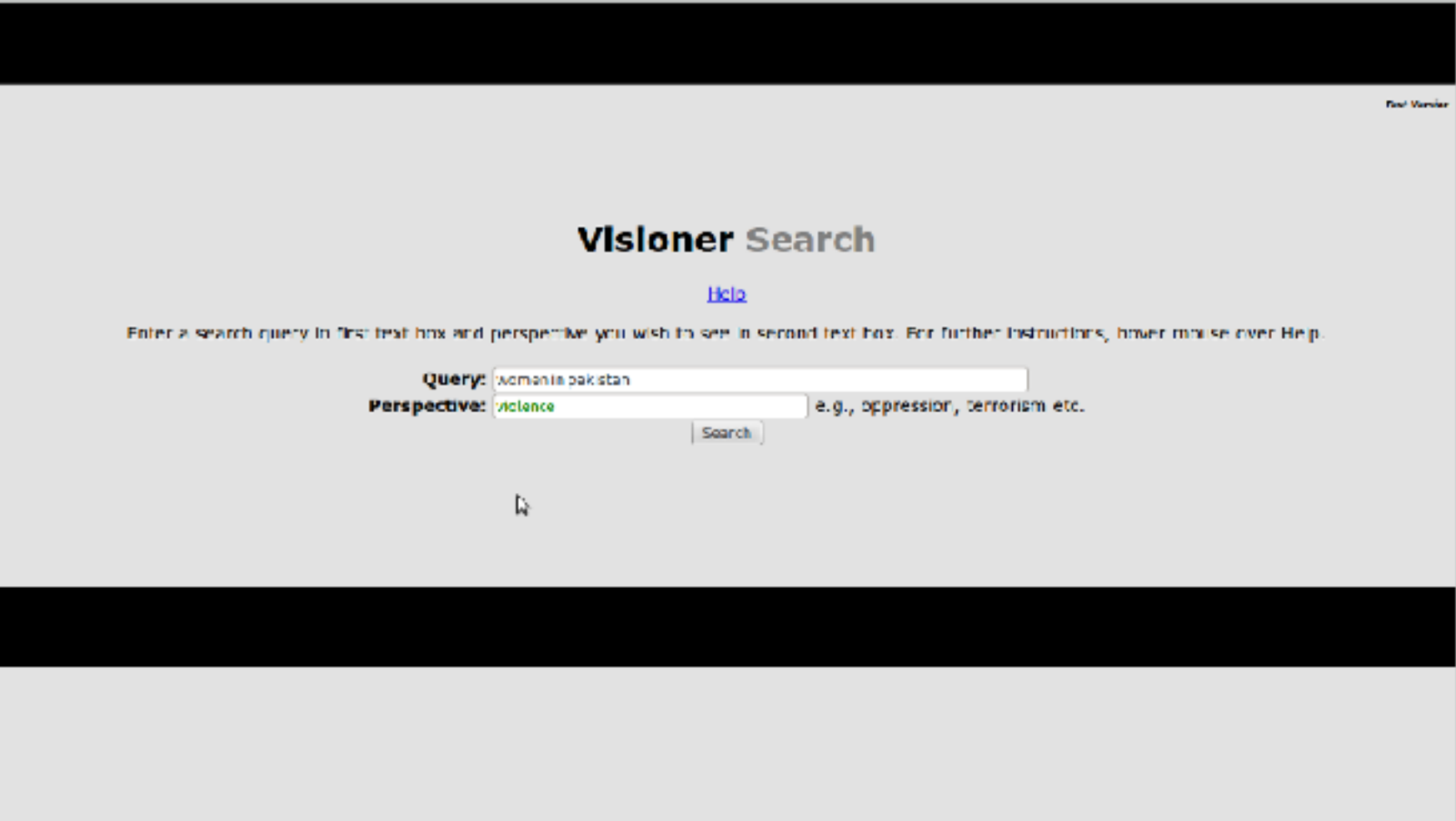
Search Interface

Figure 1: Automatic Text Color Changing to Test Match of Perspective Term with Wikipedia Article Title

Figure 2: Search Results within Perspective-Aware Search

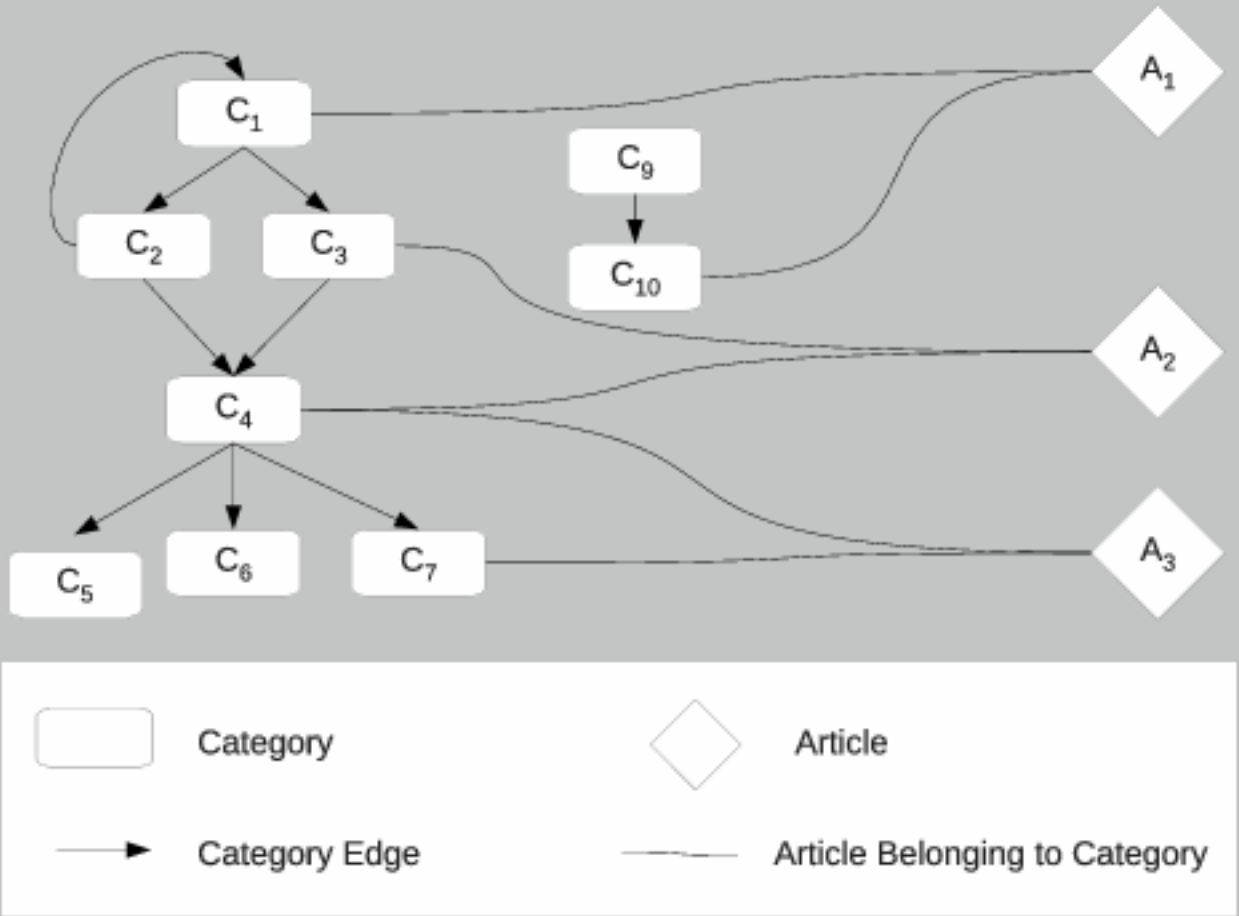## Underlying Algorithm on Top of WikiMadeEasy API

Figure 3: Wikipedia Category Graph Structure along with Wikipedia Articles

Conclusion and Future Work

Our proposed system, although related in that we also attempt to give the user an insight into the answer set and its relation to the query, differs in a fundamental manner. Our system, we posit, allows the user to gain insight into the answer set and its relation to the query, but moreover, allows to the user to gain an insight into a *perspective* inherent in the answer set. We do not rely on evidence in the document collection or the query stream, but rather instead extract terms from an external source of evidence to help users quickly see the presence of a particular perspective in the document collection and answer set. We aim at undertaking a complete and systematic review of the approach. This will comprise a number of separate user evaluation tasks. The initial experiments will involve comparing our search approach with and without the perspective-aware component over a number of tasks to see if the additional context and information provided by our perspective aware system aids the users in a range of information-seeking tasks. Our second planned experiments will be focussed on persons seeking information from newspaper articles, a domain wherein a degree of bias often exists. We wish to explore the users' experience with regards to any perceived bias in the considered corpora.