Invited Talk

From Relevance to Intelligence: Toward Next Generation Web Search

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ABSTRACT

Today search engines have become one of the most critical applications on the Web, driving many important online businesses that connect users to information. As the Web continues to grow its size with a variety of new data and penetrate into every aspect of our life, the need for developing a more intelligent search engine is increasing.

The primary function of current Web search engines is essentially relevance ranking at the document level, an old paradigm in information retrieval for more than 25 years. To make web search more intelligent, Microsoft Research Asia is currently developing a set of technologies to enable searching at the object level. For example, when a user is looking for information about a researcher, the user is not interested in just retrieving a set of papers or documents in which this researcher’s name appears, but more interested in finding insight and knowledge about this researcher as to what works he has done in different period of time, what important contributions he has brought to the research community, how influential he is, and his social networks, etc. Such kind of intelligence is not possible to obtain through current search engines.

In this talk, I will present the technical problems that we need to address, including information extraction, object identification and integration, and object relationship mining and ranking. I will also show how we apply these technologies to build more advanced vertical search engines such as product search, academic search, and image search that provide users not only relevant search results but also intelligence and insights in the retrieved data.