

Context sensitive article ranking with citation context analysis

Metin Doslu^{*}, Haluk O. Bingol^{*}

^{*}Department of Computer Engineering, Bogazici University, Istanbul, Turkey

It is hard to detect important articles in a specific context. Information retrieval techniques based on full text search can be inaccurate to identify main topics and they are not able to provide an indication about the importance of the article. Generating a citation network is a good way to find most popular articles but this approach is not context aware. The text around a citation mark is generally a good summary of the referred article. So citation context analysis presents an opportunity to use the wisdom of crowd for detecting important articles in a context sensitive way. In this work, we analyze citation contexts to rank articles properly for a given topic. The model proposed uses citation contexts in order to create a directed and edge-labeled citation network based on the target topic. Then we apply common ranking algorithms in order to find important articles in this newly created network. We showed that this method successfully detects a good subset of most prominent articles in a given topic. The biggest contribution of this approach is that we are able to identify important articles for a given search term even though these articles do not contain this search term. This technique can be used in other linked documents including web pages, legal documents, and patents as well as scientific papers.