**Research and Improvements of PageRank Sort Algorithm**

**Abstract:**

With the development of the internet, the network has become an important platform for exchanging various kinds of information ranging from research papers and educational content to multimedia, software content and much more. So, with the rapid growth of information sources available on the web, it has become very difficult for the users to access the required resources. The search engine is one way where the user can find the required information. When the user inputs certain keywords, the search engine will return the web pages in a reasonable order using sort algorithms. Among all these sort algorithms PageRank sort algorithm is considered as one of the most important and efficient algorithms for information retrieval system. In our presentation, we will explain the traditional PageRank algorithm and various improvements to the PageRank algorithm. Along with the traditional PageRank algorithm a basic idea of Hilltop and HITS algorithm will also be presented. The proposed improvement of PageRank algorithm reduces the time complexity of the traditional PageRank algorithm by reducing the number of iterations. Lastly, all the possible applications of the improved algorithm will also be discussed.

**References:**

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