Towards Optimal Search: A Modified Secant Method for Efficient Search in a Big Database

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Abstract
Search techniques are integral part for text authentication and plagiarism checks. In this work, our aim is to develop an efficient search algorithm for Arabic texts in a big database. The database contains the authentic source of information where information is ordered; thus the efficient algorithm can be used for searching the texts. Our search algorithm uses a quasi-Newton method -Secant method instead of traditional binary search. The secant method has much faster convergence property than the binary search and hence the algorithm can find the specific texts in a shorter time period.

Keywords: binary search, interpolation search, text search, quasi-Newton method, Secant method