

## Pattern Recognition Search: An Advancement Over Interpolation Search

**Authors :** Shahpar Yilmaz, Yasir Nadeem, Syed A. Mehdi

**Abstract :** Searching for a record in a dataset is always a frequent task for any data structure-related application. Hence, a fast and efficient algorithm for the approach has its importance in yielding the quickest results and enhancing the overall productivity of the company. Interpolation search is one such technique used to search through a sorted set of elements. This paper proposes a new algorithm, an advancement over interpolation search for the application of search over a sorted array. Pattern Recognition Search or PR Search (PRS), like interpolation search, is a pattern-based divide and conquer algorithm whose objective is to reduce the sample size in order to quicken the process and it does so by treating the array as a perfect arithmetic progression series and thereby deducing the key element's position. We look to highlight some of the key drawbacks of interpolation search, which are accounted for in the Pattern Recognition Search.

**Keywords :** array, complexity, index, sorting, space, time

**Conference Title :** ICCADS 2021 : International Conference on Computer Algorithms and Data Structures

**Conference Location :** New York, United States

**Conference Dates :** December 09-10, 2021