

# **Abstract**

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## **On-Line Hierarchical Clustering**

most of the techniques used in the literature for hierarchical clustering are based on off-line operation. the main contribution of this paper is to propose a new algorithm for on-line hierarchical clustering by finding the nearest  $k$  objects to each introduced object so far these nearest  $k$  objects are continuously updated by the arrival of a new object. by the arrival of a final object, we have the objects and their nearest  $k$  objects which are sorted to produce the hierarchical dendrogram. the results of the application of the new algorithm on real synthetic data also using simulation experiments, show that the new technique is quite efficient and, in many respects, superior to traditional off-line hierarchical methods