Abstract :

Skyline queries have gained much attention in the last decade and are proved to be valuable for multi-criteria ranking. They are based on the concept of Pareto dominance. In many real-life applications, the skyline returns only a small number of non-dominated objects which could be insufficient for the user. In this paper, we discuss an approach to enriching the small skyline with particular points that could serve the decision makers' needs. The idea consists in identifying the most interesting non-skyline points belonging to the fuzzy neighborhood of a skyline point and then adding them to the classical skyline. To do so, a particular fuzzy closeness relation is introduced. The relaxed skyline obtained which include the classical skyline, is a discriminated set. Furthermore, an efficient algorithm to compute the relaxed skyline is proposed. Extensive experiments are conducted to demonstrate the effectiveness of our approach and the performance of the proposed algorithm.