



A novel preference-based query and an approach to chart the competitiveness of a dataset in the preference domain



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Abstract

In this talk, we will first give an overview of the standard queries for multi-objective decision making, namely top-k and skyline queries, and list their individual shortcomings. Then, we will explore an approach that aims to bring the best from both worlds, based on a SIGMOD'21 paper and a TODS'25 article, and give an idea about the geometric nature of both the problem and its solution. We will then move on to the relevant problem of charting the competitiveness of a dataset with respect to different user preferences, based on a VLDBJ'24 article. Specifically, we will consider different measures of competitiveness and see how to (efficiently) represent the dataset's competitiveness according to these measures in the form of a heat-map that covers the domain of possible user preferences.

About the Speaker

Prof. Kyriakos Mouratidis received his BSc from Aristotle University of Thessaloniki in 2002 and his PhD from Hong Kong University of Science and Technology in 2006, both in Computer Science. Currently, he is a Professor of Computer Science at Singapore Management University. His main research area is spatial databases, with a focus on continuous query processing, road network databases and spatial optimization problems. He has also worked on preference-based queries, wireless broadcasting systems, and outsourced database authentication. He publishes in the main venues for database research (e.g., SIGMOD, VLDB, TODS, VLDB Journal, etc.) and serves on program/organizing committees and editorial boards in the same community.