

Object-Centric Process Mining Using Process Cubes

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Abstract : Process mining provides ways to analyze business processes. Common process mining techniques consider the process as a whole. However, in real-life business processes, different behaviors exist that make the overall process too complex to interpret. Process comparison is a branch of process mining that isolates different behaviors of the process from each other by using process cubes. Process cubes organize event data using different dimensions. Each cell contains a set of events that can be used as an input to apply process mining techniques. Existing work on process cubes assume single case notions. However, in real processes, several case notions (e.g., order, item, package, etc.) are intertwined. Object-centric process mining is a new branch of process mining addressing multiple case notions in a process. To make a bridge between object-centric process mining and process comparison, we propose a process cube framework, which supports process cube operations such as slice and dice on object-centric event logs. To facilitate the comparison, the framework is integrated with several object-centric process discovery approaches.

Keywords : multidimensional process mining, mMulti-perspective business processes, OLAP, process cubes, process discovery, process mining

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