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Procedia Computer Science
Volume 170, 2020, Pages 249-256
11th International Conference on Ambient Systems, Networks and Technologies, ANT 2020 / 3rd International Conference on Emerging Data and Industry 4.0, EDI40 2020 / Affiliated Workshops; Warsaw; Poland; 6 April 2020 through 9 April 2020; Code 159934

A Model for Computing Skyline Data Items in Cloud Incomplete Databases (Conference Paper) (Open Access)

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Abstract

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Skyline queries intend to retrieve the most superior data items in the database that best fit with the user's given preference. However, processing skyline queries are expensive and uneasy when applying on large distributed databases such as cloud databases. Moreover, it would be further sophisticated to process skyline queries if these distributed databases have missing values in certain dimensions. The effect of data incompleteness on skyline process is extremely severe because missing values result in un-hold the transitivity property of skyline technique and leads to the problem of cyclic dominance. This paper proposes an efficient model for computing skyline data items in cloud incomplete databases. The model focuses on processing skyline queries in cloud incomplete databases aiming at reducing the domination tests between data items, the processing time, the amount of data transfer among the involved datacenters. Various set of experiments are conducted over two different types of datasets and the result demonstrates that the proposed solution outperforms the previous approaches in terms of domination tests, processing time, amount of data transferred.

SciVal Topic Prominence

Topic: Algorithms | Query processing | Probabilistic skyline

Prominence percentile: 88.817

Author keywords

cloud databases | distributed database | incomplete data | query processing | Skyline queries

Indexed keywords

Engineering controlled terms: Data transfer | Industry 4.0

Engineering uncontrolled terms: Cloud database | Cyclic dominance | Data centers | Data items | Distributed database | Missing values | Processing time | Skyline query

Engineering main heading: Query languages

ISSN: 18770509
Source Type: Conference Proceeding
Original language: English

DOI: 10.1016/j.procs.2020.03.037
Document Type: Conference Paper
Volume Editors: Shakshuki E.,Yasar A.-U.-H.
Publisher: Elsevier B.V.

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