A Comprehensive Survey of Pattern Mining: Challenges and Opportunities

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Abstract

Pattern mining is an important field of data mining. The fundamental task of data mining is to explore the database to find out sequential, frequent patterns. In recent years, data mining has shifted its focus to design methods for discovering patterns with user expectations. In this regard, various types of pattern mining methods have been proposed. Frequent pattern mining, sequential pattern mining, temporal pattern mining, and constraint-based pattern mining. Pattern mining has various useful real-life applications such as market basket analysis, e-learning, social network analysis, web page, click sequences, Bioinformatics, etc., this paper presents a survey of various types of pattern mining. The main goal of this paper is to present both an introduction to all pattern mining and a survey of various algorithms, challenges, and research opportunities. This paper not only discusses the problems of pattern mining and its related applications, but also the extensions and possible future improvements in this field.

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A Comprehensive Survey of Pattern Mining: Challenges and Opportunities


Index Terms

Computer Science Information Sciences

Keywords

Constraints, Sequential Pattern Mining, Frequent Pattern, Domain Driven Pattern Mining.