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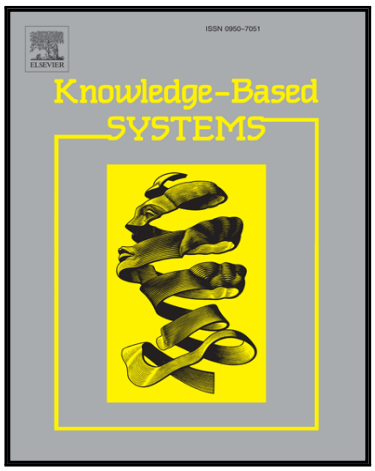

EasyMiner.eu: Web Framework for Interpretable Machine Learning based on Rules and Frequent Itemsets

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EasyMiner.eu: Web Framework for Interpretable Machine Learning based on Rules and Frequent Itemsets

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Abstract

EasyMiner (`http://www.easyminer.eu`) is a web-based machine learning system for interpretable machine learning based on frequent itemsets. The system currently offers association rule learning (apriori, FP-Growth) and classification (CBA). For association rule learning and classification, EasyMiner offers a visual interface designed for interactivity, allowing the user to define a constraining pattern for the mining task. The CBA algorithm can also be used for pruning of the rule set, thus addressing the common problem of "too many rules" on the output, and the implementation supports automatic tuning of confidence and support thresholds. The development version additionally supports anomaly detection (FPI and its variations) and linked data mining (AMIE+). EasyMiner is dockerized, some of its components are available as open source R packages.

Keywords: association rules, classification, web service, web application, prediction API, machine learning, data mining

1. Introduction

Rules are one of the most accessible forms of knowledge that can be derived from data, and can thus serve as a basis for a machine learning framework focused on generation of interpretable models. In order to ensure

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