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Predicting Groundwater Areas Using Data Mining Techniques: Groundwater in Jordan as Case Study

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Abstract : Data mining is the process of extracting useful or hidden information from a large database. Extracted information can be used to discover relationships among features, where data objects are grouped according to logical relationships; or to predict unseen objects to one of the predefined groups. In this paper, we aim to investigate four well-known data mining algorithms in order to predict groundwater areas in Jordan. These algorithms are Support Vector Machines (SVMs), Naïve Bayes (NB), K-Nearest Neighbor (kNN) and Classification Based on Association Rule (CBA). The experimental results indicate that the SVMs algorithm outperformed other algorithms in terms of classification accuracy, precision and F1 evaluation measures using the datasets of groundwater areas that were collected from Jordanian Ministry of Water and Irrigation.

Keywords : classification, data mining, evaluation measures, groundwater
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