Abstract

This paper presents a review of runoff forecasting method based on hydrological time series data mining. Researchers are developed models for runoff forecasting using the data mining tools and techniques like regression analysis, clustering, artificial neural network (ANN), and support vector machine (SVM), Genetic Algorithms (GA), fuzzy logic and rough set theories. The scientific community has been trying to find out a better approach to solve the issues of flood problems. Time Series Data mining is paying crucial role for the achieving a real time hydrological forecast. Hydrological Time series is an important class of temporal data objects and it can be find out from water resource management and metrological department. A hydrological time series is a collection of observations of hydro and hydrometeorological parameters chronologically. The wide use of hydrological time series data has initiated a great deal of research and development attempts in the field of data mining. Trend, pattern, simulation, similarity measures indexing, segmentation, visualization and prediction carried out by the researchers with the implicit mining from the historical observed data. The critical reviews of the existing hydrological parameter prediction research are briefly explored to identify the present circumstances in hydrological fields and its concerned issues.
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Index Terms

Computer Science
Information Science

Keywords
Clustering; data mining; runoff; hydrological time series; pattern discovery; regression
analysis ANN SVM rough set and fuzzy logic genetic algorithms.