

A Novel Data Cluster Algorithm Based on Linear Regression And Residual Analysis for Human Resource Management

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Abstract

Human resource management has become an important part of enterprise management. How to select high-quality talents and how to allocate corresponding talents to appropriate works have become an increasingly acute problem. Traditional data cluster methods cannot effectively solve the above problem due to the high-dimensional data. Therefore, we propose a novel data cluster algorithm based on linear regression and residual analysis for Human Resource Management. Improved hybrid entropy weight attribute similarity is adopted for measuring the similarity between objects. The proposed local density calculation method based on KNN and Parzen window is used to calculate the density of each object. Then, we utilize the linear regression and residual analysis to select the clustering center points quickly and automatically, which can eliminates the subjectivity of artificial selection. A new clustering center objective optimization model is proposed to determine the real clustering center. Through theoretical analysis and comparative experiments on artificial data sets and real data sets, it shows that the proposed cluster algorithm can overcome the defects of the original algorithms, and achieve better clustering effect and lower computation time than state-of-the-art methods.

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