论文

基于形态的时间序列相似性度量研究

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摘要
时间序列重新描述和相似性度量是时间序列数据挖掘的研究基础，对提高挖掘任务的效率和准确性至关重要。该文提出了一种新的基于形态的时间序列符号描述，并给出相应的距离公式，以度量时间序列的相似性。该方法直观简洁，对数据的平移、伸缩不敏感，能够反映序列趋势变化的程度、去除噪声的影响，满足时间多分辨率要求。仿真结果表明，该方法具有较好的聚类性能，可以在不同分辨率下有效度量时间序列的形态相似性。

关键词　时间序列　数据挖掘　相似性度量　重新描述
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Research on Shape-Based Time Series Similarity Measure

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Abstract
The representation and similarity measure of time series are the basis of time series research, which is quite important to improving the efficiency and accuracy of the time series data mining. This paper proposes a shape-based discrete symbolic representation and its corresponding distance measure to measure the similarity between time series. The present method is intuitive and compact, and not sensitive to the shifting, amplitude scaling, compression and stretch of data. The method can reflect the degree of the dynamic change of the tendency and erase the influence of the noises, and it has multi-scale characterization. The experimental results show that the approach has good effect in clustering，which can measure the shape-similarity of time series effectively under various analyzing frequency.

Key words　Time series　Data mining　Similarity measure　Representation

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扩展功能

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