عنوان مقاله:

Recognition of Control Chart Patterns Using Adaptive Neuro-Fuzzy Inference System and selected features

محل انتشار:

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خلاصه مقاله:

Unnatural patterns in the control charts can be associated with a specific set of assignable causes for process variation. Hence pattern recognition is very useful in identifying process problem. This paper presents a novel hybrid intelligent method for recognition of common types of control chartpatterns (CCP). The proposed method includes three main modules: a feature extraction module, a classifier module and an optimization module. In the feature extraction module, a proper set of the shape and statistical features are proposed as the efficient characteristic of the patterns. In the classifiermodule adaptive neuro-fuzzy inference system (ANFIS) is proposed that is a hybrid combination of artificial neuralnetworks (ANN) and fuzzy inference system (FIS). In ANFIS training, the vector of radius has very important role for its recognition accuracy. Therefore, in the optimization module,bees algorithm (BA) is proposed for finding optimum vector of radius. Simulation results show that the proposed system has high recognition accuracy.

کلمات کلیدی:

ANFIS; Bees algorithm; Control chart patterns; Shape feature; Statistical feature