عنوان مقاله:

Control Chart Patterns Recognition Using Fuzzy Rules and Efficient Features

محل انتشار:

کنفرانس بین المللی یافته های نوین پژوهشی درمهندسی برق و علوم کامپیوتر (سال: 1394)

تعداد صفحات اصل مقاله: 12

نویسندگان:

Hossein Babaee - *Babol Noshirvani University*

Ali Lari - *Babol Noshirvani University*

Javad Ganjipour - *Babol Noshirvani University*

Jalil Addeh - *Babol Noshirvani University*

خلاصه مقاله:

Automatic recognition of abnormal patterns in control charts has seen increasing demands nowadays in the manufacturing processes. This paper presents a novel hybrid intelligent method for recognition of common types of control chart patterns (CCPs). The proposed method includes three main modules: the feature extraction module, the classifier module and the optimization module. In the feature extraction module, a proper set of the shape features and statistical features are proposed as the efficient characteristic of the patterns. In the classifier module, adaptive neuro-fuzzy inference system (ANFIS) is investigated. In ANFIS training, the vector of radius has very important role for its recognition accuracy. Therefore, in the optimization module, particle swarm optimization (PSO) algorithm is proposed for finding the optimum vector of radius. Simulation results show that the proposed system has high recognition accuracy

کلمات کلیدی:

ANFIS; Control chart patterns; Optimization; Shape features; Statistical features

لینک ثابت مقاله در پایگاه سیویلیکا:

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