Abstract

The control chart (CC) is an important tool in Statistical Process Control (SPC) to improve the quality of products and processes. An unnatural variation in control maps assumes that an assignable cause affects the process is present, and some actions need to be applied to solve the problem.

Thanks to their better recognition capability, NEURO-FUZZY is a powerful tool for process control and rapid detection of the drifts of their evolutions.

In this paper, a NEURO-FUZZY architecture is used to recognize control charts pattern (CCPR). Several forms and architectures have been tested and the results found show that the chosen architecture leads to the best recognition quality.


Index Terms

Computer Science

Fuzzy Systems

Keywords
Adaptive Neuro-Fuzzy Inference System (ANFIS), Statistical Process Control (SPC), Control Charts (CC), Control Charts Pattern (CCP).