



## A Methodology for Manufacturing Process Signature Analysis (Classic Reprint) (Paperback)

By Steven D Eppinger

Forgotten Books, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Excerpt from A Methodology for Manufacturing Process Signature Analysis One of the fundamental challenges facing manufacturing engineers today is the achievement of continuous improvement through the implementation of better process control systems. We believe that the improvement of control systems entails the collection of more information about the process and/or more effective use of that information. We present manufacturing process signature analysis in order to construct a relationship between the collected information (process signatures) and the quality of the process output, which can be used for on-line monitoring and control. The general procedure applied in this paper consists of three steps: feature extraction, feature selection, and classification. We have found that the extracting of large sets of features from signatures is straightforward and that several classification schemes are available, with neural networks being the most general and powerful method that we have tried. Feature selection, on the other hand, is generally quite difficult for complex data structures. We present several feature extraction methods and show that neural networks can be quite useful in choosing different feature sets....



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