

A Neural Network-based Algorithm for Group Technology

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ABSTRACT

This paper develops a neural network-based algorithm which leads to a formation of machine cells and part families for group technology. A newly defined similarity coefficient is introduced. Then we formulate machine grouping problem from which machine cell can be found through the application of neural network model. Once machine cells are identified, an algorithm for part grouping is employed to find the associated part families. Computational experiences show that the neural network-based algorithm is substantially better in terms of grouping efficiency and grouping efficacy compared to other existing algorithms.

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