

Fault detection and diagnosis for DC motor in robot movement system using neural network

ABSTRACT

Most of intelligent control in movement control involves fuzzy logic and neural network systems. In this research, a neural network is used to detect and diagnose the faults that may occur in a DC motor system during robot operations. The DC motor system is constructed using the SIMULINK® toolbox. This system provides the normal and faulty data that has been used for training purpose in the neural network system to get the normal and faulty models. Finally, from the simulation results, the neural network is able to recognize the system characteristic whether in normal conditions or faulty conditions.

Keyword: Intelligent control; Neural network; Digital controller; DC motor; Robot movement