

A CUSTOM NEURAL NETWORK DESIGN: THE METHODOLOGY

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Abstract

A neural network is a massively parallel distributed processor made up of simple processing units, which has a natural propensity for sharing experiential knowledge and making it available for use. The neural network resembles the brain in following respects, i) knowledge is acquired by the network from its environment through a learning process, and ii) inter-neuron connection strengths, i.e. synaptic weights are used to store the acquired knowledge. In most general form, a neural network is a machine that is designed to model the way in which the brain performs a particular task or function of interest; the network usually implemented by using electronics components or is simulated in software. Due to variety of advantages similar to human brain, neural networks are widely being used in several fields such as aerospace, banking, automotive, defense, electronics, finance, manufacturing, medical, robotics, speech, telecommunications, etc. This paper aims at the methodological design approach of a neural network for application due to its several desirable properties and capabilities.

Keywords: MLP, NEURAL NETWORK, RBF, SOFM, PCA, MSE