

ABSTRACT

The core component of control systems is measurement equipment. It is made up of sensors, actuators, and transducers. Sensors are tools that monitor environmental changes and convert that become digital in nature. But any measurement tool can be assessed in terms of replicability, precision consistency, sensitivity, accuracy, and clarity. In this paper the total performance is measured in phase of memory usage, parameter count, time usage, and accuracy. The ideal design for modelling an ANN of a nonlinear temperature sensor with a single input/output is identified as 1-9-1 using BR training algorithm with LogPurelin as an activation function. The declare architecture has 28 parameters, uses 212 memory bytes and needs 43 epochs. The architecture of 1-5-1 has 16 parameters, uses 264 memory bytes and needs 91 epochs. The architecture of 1-2-1 has 7 parameters, uses 428 memory bytes and needs 151 epochs. These findings could be applied to create non-linear systems based on ANN with actual time train capabilities employing embedded networks with little means. Non-linear simulation can be used for recommended models.