

Paper-JT- 008: Neural network Applications on The Microcontroller ATMEGA 328

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ABSTRACT

Microcontroller is a cheap component and is usually used in simple control applications. Neural network is one of the artificial intelligence methods proven to be quite reliable today. Neural network for learning process normally uses back propagation standard. In addition, feed forward is used for the identification process. However, In this research, a back propagation neural network will be implemented in ATmega 328 microcontroller, especially when feed forward and the learning is done on the personal computer (PC). After obtaining the data weights, the weights for neural network will then be implemented in microcontroller. The final result shows that the microcontroller is able to process the feed forward neural network. The memory capacity used is 32 KB in 2 hidden layers and 4 hidden nodes in each layer.

Keywords: neural network, microcontroller, feed forward, standard back propagation