Abstract

In this paper a hardware implementation of a neural network NN using Field Programmable Gate Arrays (FPGA) is presented. A digital system architecture is designed to realize a feed forward multilayer neural network. The designed architecture is described using Very High Speed Integrated Circuits Hardware Description Language (VHDL) and implemented in an FPGA chip. The design is verified on an FPGA demo board Xilinx Spartan.

References

2. Ravikant G. Biradar, Abhishek Chatterje, Prabhakar Mishra, Koshy George“FPGA Implementation of a Multilayer Artificial Neural Network using System-onChipDesign
Methodology”. IEEE TRANSACTION 2015
3. Qiang Liu, Member, IEEE, Ming Gao, and Qijun Zhang, Fellow, IEEE “Knowledge-Based Neural Network Model for FPGA” IEEE Transion On VerLarge Scale Integration (VLSI) System 2015 IEEE Transaction p.p 1063-8210
4. Mr Prashant D. Deotale Prof. Lalit Dole “Design of FPGA Based General Purpose Neural Network ” ICICES2014
5. S.Hariprasath T.N.Prabakar “ FPGA Implementation of Multilayer Feed Forward Neural Network Architecture Using VHDL”

**Index Terms**
- Computer Science
- Networks

**Keywords**
- FPGA, VHDL,NN.