Abstract

Glaucoma is one of the severe eye disease according to the number of blindness causes in India and western Countries. Therefore the early detection, long-term monitoring of the patients and the decision about the appropriate therapy at the correct time point are serious tasks for the ophthalmologists and optometrists.

There are many diagnostic methods are available like, Fundal examination, perimetry OCT (Optical Coherence Tomography) Field analyzer and Tonometry to diagnose Glaucoma. Among these, Tonometry in the reliable and accurate method to measure the intra-ocular pressure of the eye. Which is the cause for Glaucoma.

The present research works in under taken to classify and diagnose such dreaded disease Glaucoma through Artificial Neural networks (ANNs) model. The ANN model adopted in multilayer feed forward networks and back propagation algorithm for classification. The present
study considers 150 patients input data and output data for training of ANN networks, for testing of ANN, 50 patients input data is considered. The adopted ANN networks with topology 6-150-1 classified Glaucoma and non-glaucoma cases with an accuracy of 80%.

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**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Glaucoma, Artificial Neural Networks, Tonometry, Optical Coherence Tomography, Single Layer Perceptron, Multi Layer Perceptron, Radial Basis Function networks, Kohonen's self-organizing feature map.