Hereditary Ratio of Adolescent to Parent Based on Eyes Analysis Using Back-Propagation Neural Network (BPNN)

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ABSTRACT

The demonstration of the limitations of single-layer neural networks was a significant factor in the decline of interest in neural networks in the 1970s. The discovery (by several researchers independently) and widespread dissemination of an effective general method of training a multilayer neural network (Rumelhart, Hinton, & Williams, 1986a, 1986b; McClelland & Rumelhart, 1988) played a major role in the re-emergence of neural networks as a tool for solving a wide variety of problems.

The training of a network by back-propagation involves three stages: the feedforward of the input training pattern, the calculation and back-propagation of the associated error, and the adjustment of the weights. After training, application of the net involves only the computations of the feedforward phase. Even if training is slow, a trained net can produce its output very rapidly. Numerous variations of backpropagation have been developed to improve the speed of the training process.

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