Abstract

In this paper, electroencephalographic (EEG) signals are analyzed and classified based on a new multilevel transfer function quantum wavelet neural network (QWNN) model. The independent component analysis (ICA) is used as processing after normalization of these signals. Some features are extracted from the data using the clustering technique (CT). The classification result of the new model is compared with that of wavelet neural network (WNN), quantum neural network (QNN), and feed forward neural network (FFNN). The new QWNN model is found to achieve average classification accuracy of 94.187%, but classification accuracies using WNN, QNN and FFNN are 89.803%, 83.713% and 75.076%, respectively.
Index Terms

Computer Science  Signal Processing

Keywords

EEG Signals  Neural Networks  Quantum Computing  Wavelet Transforms  Wavelet Neural Networks