Multiple Neural Networks over Clustered Data (MNCD) to Obtain Instantaneous Frequencies (IFs)

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Abstract

In this paper we present advantage of training MNCD for obtaining Time localized Frequencies (also called IF), which is one useful concept for describing the changing spectral structure of a time-varying signal, arising so often in Time Frequency Distribution (TFD) theory. It has been found that training does not give the same results every time; this is because the weights are initialized to random values and high validation error may end up training early. Moreover once a network is trained with selected input, its performance improves significantly as opposed to the one that does not receive selected input data for training. The performance of MNCD can be compared by computing the Entropy, Mean Square Error (MSE) and time consumed for convergence.