Time Frequency Distribution using Neural Networks

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Abstract

In this paper we present a method of obtaining a Time Frequency Distribution (TFD) of a signal whose frequency components vary with time. The method employs Neural Networks (NN) which are trained by using the spectrograms of several training signals as input and TFDs that are highly concentrated along the instantaneous frequencies of the individual components present in the signal as targets. The trained neural network is then presented with the spectrogram of unknown signals and highly concentrated TFDs are obtained.

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