# Neural Network Solution for Compensating Distortions of Time Frequency Representations

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## Abstract

*A Neural Network (NN) based realization to obtain energy concentration along Instantaneous Frequencies (IFs) is proposed by compensating linear and non linear distortions present in Time Frequency Representations (TFRs). Blurry spectrograms and highly concentrated Wigner Distributions (WDs) of various signals constitute the training set. The input data is grouped according to some underlying feature present in TFR image to have better generalization ability of the trained NN. Blurry TFRs of multi component signals are then given as test cases to the trained NN. Effectiveness of the approach is established by comparing the information content in each input & resultant TFR.*