DENOISING THE SIGNAL FROM DISTORTED SIGNAL USING FFT

Abstract: -

The signal denoising is a method for filtering the high-frequency noise of the signal and makes the signal more precise/noise free, FFT and the wavelet transform methods are applied in signal denoising and was simulated on MATLAB.

In this project I am going to create the simple dataset which is just a sum of two sine waves with different frequencies, we can add the noise to that dataset and we will use the FFT to pull out the data and the noise from the mixed version of the signal by using the python code.

We can also use the same idea to extract the noise free audio signal from distorted audio signal by analysing the waves of the audio signals.

In this project, we will learn how we can use the FFT to remove the noise from the distorted version of the signal to get the pure signal that is a denoised signal.

Reference: -

[1] Wavelet and FFT Based Image Denoising Using Non-Linear Filters, International Journal of Electrical and Computer Engineering (IJECE) Vol. 5, No. 5, October 2015, pp. 1018~1026 ISSN: 2088-8708