Since noise always exists in the field, the author analyzed the performance of the proposed algorithm when noise exists in measurements. Noise has been added to the data that has been generated in section ##. The noise that has been added is Gaussian white noise at SNR of $$. To remove noise from data, the author has used wavelet denoising approach (insert reference). Figure ## shows mode1 current of a certain fault case with noise, without noise and after wavelet denoising has been applied.

The denoised data are used for testing the ANNs trained in section ## with the data free from noise. As can be seen from the tables $$, the performance of the ANN degrades as SNR decreases indicating higher noise ratios. This is more noticeable with classification with higher levels at the noise becomes more noticeable. However, if ANN are retrained using the denoised version, better classification accuracy may be achieved as given in tables $$. A detailed error analysis is beyond the scope of this paper and will be undertook along with field validation.

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When it comes to comparison to previous methods in literature, the author reproduced both papers %% and %% to compare to the proposed approach in this paper. Both methods were applied to the system under study in figure $$. The data that has been used has been assumed free from noise.

For method in paper $$, the results of the comparison are given in table ##. As can been seen from the results, the features used in the paper gives better classification accuracy in less time.

For the method in $$, the results of the comparison, ……