

# Machine and Deep Learning Based Classification Approach for Power Quality Disturbances

**Invited Paper I D**

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## **Abstract:**

The aim of this talk is to propose a new approach for the pattern recognition of power quality (PQ) disturbances based Deep learning Applications. In literature, it is found that due to the presence of non-linearity and noise on the original signal, it is hard to analyze them by second order statistics. Thus, an effective feature set considering higher order statistics (HOS) like variance, skewness, and kurtosis is found more effective and among all the classifiers, k-NN showed higher classification accuracy and robustness both in training and testing to detect the PQ disturbance events. In the era of Deep learning, different architectures are found outperforming previous state of the art methods in terms of classification accuracy.