*Detecting and Predicting Electricity Theft using*

*Machine Learning Algorithms*

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# **ABSTRCT**

Of the issue related with non-specialized irregularities in electricity usages, different strategies have been put in place for effective administration of non-specialized peculiarities in the electricity industry. The effective and best strategy implemented so far to diminish non-specialized peculiarities and revenue losses is the utilization of Smart advanced utility meters. This strategy makes deceitful exercises increasingly difficult, and it is simple to identify when such deceitful exercise happens. However, this strategy is not extensively utilized in most developing nations like Malawi because of the cost associated with the procurement and installation of the smart meters. This research paper looks at how well the proposed AI cost saving approach be utilized to identify and anticipate non-specialized oddities. The research proposes the use of; Random Forest, SVM, Naïve Bayes and Decision Tree models. These models will be implemented on local area power utilization, covering a year time frame verifiable data, to improve constant precision on the recognition of nontechnical inconsistencies. The models will distinguish and anticipate malevolent power utilization in real-time and chronicled data with anomalous utilization patterns will be associated with electricity theft. From other research, SVM method has been studied successfully in problem solving of anticipating and identify power theft on domestic level, despite showing weakness of limited capacity which has prevented the method from being used to solve other detection problems. Overall performance of SVM showed phenomenal results, in comparison with the other techniques. SVM performed well as a standalone technique as well as a hybrid with other techniques.