

Smart Meter Data Compression and Load Profile Classification using UMAP and Random Forest(Conference Paper)

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Abstract

In this paper, Uniform Manifold Approximation and Projection (UMAP) is used to compress electricity consumption data. The Random Forest (RF) classification algorithm is then used on the compressed data to learn the consumption patterns of two distinctive user base - household consumers and SMEs (small and medium businesses). Compression ratio achieved by UMAP and classification accuracy of our classifier model are compared with conventional methods and various machine learning pipelines proposed in recent studies. The results demonstrate that our proposed technique achieves better compression ratio and classification accuracy compared to the conventional methods. © 2021 IEEE.

Author keywords

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