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(54) **ELECTRICAL GRID ANOMALY DETECTION, CLASSIFICATION, AND PREDICTION**

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(57) **ABSTRACT**

Anomaly detection, classification, and prediction is provided. A system can include one or more processors coupled with memory. The system can identify voltage waveform data corresponding to electricity distributed over a utility grid and measured by a metering device. The system can detect, based on a comparison with baseline voltage waveform data, an anomaly in at least a portion of the voltage waveform data. The system can generate spectrogram data for the at least the portion of the voltage waveform data comprising the anomaly. The system can determine, via a model trained with machine learning, a type of the anomaly based on the spectrogram data. The system can provide an indication of the type of the anomaly to cause an action to be performed on the utility grid responsive to determination of the type of anomaly.