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(57) Abstract :
The present invention relates to a machine learning algorithm (100) for energy demand forecasting, integrating historical consumption data (110), weather parameters (120), and socio-economic indicators (130). The algorithm comprises preprocessing (115), feature engineering (118), and hybridized model training (140) to generate forecasts via a prediction module (150). A validation unit (160) ensures accuracy, while a feedback loop (170) enables continuous learning. The invention provides enhanced forecasting accuracy, adaptability, and scalability, thereby supporting efficient energy management, renewable integration, and sustainable grid operations.

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