How to use hybrid energy to analyze 5G base stations

This study introduces a hybrid-boosted ensemble model tailored for predicting energy utilization in 5G base stations. The methodology merges ridge regression for linear trend analysis, XGBoost to tackle ...

We demonstrate that this model achieves good estimation performance, and it is able to capture the benefits of energy saving when dealing with the complexity of multi-carrier base stations architectures.

We design a Deep Neural Network (DNN) based energy consumption model. The designed DNN is then optimized through quantization process for reducing its size, inference time ...

EE solutions have been segregated into five primary categories: base station hardware components, sleep mode strategies, radio transmission mechanisms, network deployment and ...

In today"s 5G era, the energy efficiency (EE) of cellular base stations is crucial for sustainable communication. Recognizing this, Mobile Network Operators are actively prioritizing EE for both ...

Grounded in the spatiotemporal traits of chemical energy storage and thermal energy storage, a virtual battery model for base stations is established and the scheduling potential of ...

In this paper, hybrid energy utilization was studied for the base station in a 5G network. To minimize AC power usage from the hybrid energy system and minimize solar energy waste, a ...

Within this model, we leverage the flexibility of mobile small-cell base stations (MSBS) to seamlessly traverse service regions. We compute the transmission power and location of SBS and ...

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