Power consumption of 5G base station equipment

Should power consumption models be used in 5G networks?
This restricts the potential use of the power models, as their validity and accuracy remain unclear. Future work includes the further development of the power consumption models to form a unified evaluation framework that enables the quantification and optimization of energy consumption and energy efficiency of 5G networks.

Does a balanced dataset improve energy prediction of 5G base stations?
For energy prediction of 5G base stations,this thesis finds that using a more balanced dataset,in terms of the number of samples for each product,has a positive impactfor the ANN and the Gradient Boosted Trees model while the linear regression performs worse.

How can we improve the energy eficiency of 5G networks?
To improve the energy eficiency of 5G networks,it is imperative to develop sophisticated modelsthat accurately reflect the influence of base station (BS) attributes and operational conditions on energy usage.

Can machine learning predict energy consumption for 5g/4g radio base stations?
To further develop energy modelling methodology and attempt to answer the questions presented in the previous section, different machine learning algorithm's ability to predict energy consumption is investigated for 5G/4G radio base stations.

This paper conducts a literature survey of relevant power consumption models for 5G cellular network base stations and provides a comparison of the models. It highlights ...

Accurate energy consumption modeling is essential for developing energy-efficient strategies, enabling operators to optimize resource uti-lization while maintaining network ...

For 5 G base station software management strategies, there is already a certain amount of research available. Dynamic power consumption modeling for base stations is a ...

However, there is still a need to understand the power consumption behavior of state-of-the-art base station architectures, such as multi-carrier active antenna units (AAUs), ...

Mathematical optimization of energy consumption requires a model of the prob-lem at hand. In this thesis linear regression is compared with the gradient boosted trees method and a neural ...

Web: https://ajtraining.co.za