Electricity Price Forecasting for Cloud Computing Using an Enhanced Machine Learning Model

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Abstract: *Cloud computing is rapidly taking over the information technology industry because it makes computing a lot easier without worries of buying the physical hardware needed for computations, rather, these services are hosted by companies with provide the cloud services. These companies contain a lot of computers and servers whose main source of power is electricity, hence, design and maintenance of these companies is dependent on the availability of steady and cheap electrical power supply. Cloud centers are energy-hungry. With recent spikes in electricity prices, one of the main challenges in designing and maintenance of such centers is to minimize electricity consumption of data centers and save energy. Efficient data placement and node scheduling to offload or move storage are some of the main approaches to solve these problems. In this article, we propose an Extreme Gradient Boosting (XGBoost) model to offload or move storage, predict electricity price, and as a result reduce energy consumption costs in data centers.*

Keywords: Electricity Price Forecasting for Cloud Computing

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