

FORECAST SERVICE FOR ENERGY DEMAND/GENERATION

DESCRIPTION OF INVENTION

Short-term forecast service aimed at forecasting demand/generation through the use of historical data. The solution allows to incorporate exogenous variables of relevance for the improvement of forecast, such as weather and calendar data. The core of the service integrates a powerful and flexible configurable forecast model that employs modern regression techniques based on statistical learning, optimal pattern selection and optimal parameter setting. After a performing a data training prior to the forecast, the service provides with high accuracy and high generalization capacity.

Although its main use is the forecast of aggregate demands of domestic/ industrial type and generation the service is not restricted to these forecast, because, the service can to forecast of any other type of variable, even disaggregated demand or forecast datas that availability of historical data such as: prices, electric vehicle charge, etc. Likewise, although it is oriented to short-term forecast service, it is adaptable and extrapolable for very short-term forecast service or medium-long-term forecast service with modifications

BUSINESS APPLICATIONS

Generation companies, companies with limited consumption, electricity distribution companies, marketers, aggregators and electrical cooperatives.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

The quality of the forecasts service in the management and planning of deregulated electrical systems is very important, as well as in the fulfillment of the renewable integration requirements. That is why this service allows a forecast of future demand and generation, as well as any other type of variable involved in the electricity market, with a high degree of precision. This provides the ability to make a correct decision-making process when participating in the markets for the purchase and sale of energy and network services, paid by being able to anticipate the optimal volume of demand/generation required. This maximizes the profits obtained in these markets and services, while minimizing the risk of losses due to an inadequate forecast.

STATE OF TECHNOLOGY DEVELOPMENT

Currently, a validated and tested forecast service is available in a wide range of scenarios, mainly in relation to aggregate demand forecast. It has also been used for the generation forecast and has been designed in such a way that it is adaptable and expandable to any other type of forecast of variables of a similar nature.

The forecast service is the result of a multidisciplinary collaboration that combines the knowledge provided by technical experts in the analysis of electricity markets and researchers who are experts in learning techniques and probabilistic models. The ITE ability to develop and implement the most advanced prediction techniques is based primarily on research in the field of machine learning. The fundamental premise of ITE is the continuous validation and improvement of the techniques and methods developed in this field.

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RELATED IMAGES

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