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Editorial

Time Series Forecasting for Energy Consumption

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Introduction

In the last few years, there has been considerable progress in time series forecasting algorithms, which are becoming more and more accurate, and their applications are numerous and varied. Specifically, accurately predicting energy consumption in a particular building, country, etc., is an important task for properly managing energy efficiency. Moreover, it can be advantageous to carry this out in a short time frame, taking into account the new consumption paradigm. On the other hand, the time horizon must be considered, which can be short-, medium-, or long-term. For this reason, it is important to develop and implement new intelligent models faster and more accurately. In this way, the application of big data and machine learning techniques have become essential to achieve this goal. This Special Issue sought to contribute to the advancement of energy consumption prediction using artificial intelligence models in an optimal and precise manner.

This Special Issue aimed to progress the time series forecasting problem for energy-related data. Some of the topic interests of this Special Issue were:

- Artificial intelligence;
- Machine learning;
- Renewable energy, solar power, and wind power;
- Deep learning;
- Artificial neural networks;
- Data mining;
- Netload forecasting;
- Energy consumption forecasting;
- Energy-related time series analysis;
- Energy-related time series model;
- Energy-related time series forecasting.

Publication Statistics

After a thorough peer review process of the papers submitted, a total of six papers were accepted and published. The geographical distribution of authors can be seen in Table 1. There was a total of 22 authors from four countries—50% from Spain, 22% from Portugal, 18% and 9% from Sweden and Korea, respectively.

Table 1. Authors' countries.

Country	Authors	Reference
Spain	11	[1–3]
Portugal	5	[4]
Sweden	4	[5]
Korea	2	[6]

On average, four authors contributed per published paper, with a minimum of two and a maximum of five authors.

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Author's Affiliations

The affiliation of the authors who contributed to this Special Issue can be observed in Table 2. Note that some authors presented more than one affiliation.

Table 2. Authors' affiliations.

Affiliation	Authors	Reference
University of Granada	4	[1]
Ceit-Basque Research and Technology Alliance (BRTA)	4	[2]
University of Navarra	4	[2]
Blekinge Institute of Technology	3	[5]
Polytechnic of Porto	3	[4]
IDENER	2	[3]
Research Group on Intelligent Engineering and Computing for Advanced Innovation and Development	2	[4]
SISTRADE	2	[4]
Graduate School of Artificial Intelligence	2	[6]

Topics

In order to summarise the topics of the research works published in this Special Issue, we present Table 3, taking into account topics proposed by the editors.

Table 3. Topics of Forecasting Time Series for Energy Consumption.

Topic	Manuscripts	Reference
Artificial Neural Networks	4	[1–4]
Deep Learning	2	[3,6]
Data Mining	1	[5]

The submissions presented interesting solutions to varied problems in the energy field. Residential energy consumption was addressed in [6], industrial facilities in [4], several research was made in different grids [2,3], public buildings were analysed in [1] and a remarkable variety of real-world datasets were used in [5]. Among these studies, artificial neural networks were utilised to solve most of the problems [1–4], along with deep-learning solutions [3,6]. A slightly different approach was presented in [5] by means of data-mining techniques and unsupervised algorithms and clustering analysis.

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