

Special Issue

Application of Computational Intelligence and Machine Learning Approaches in Photovoltaic-Rich Distribution Networks

Message from the Guest Editors

In recent years, increasing numbers of photovoltaics have been installed on distribution grids worldwide, and are leading to changes in the way traditional distribution grids are operated. Many new challenges are arising, such as reverse power flows, increases in voltage, power quality issues, as well as protection coordination. The quantity of energy produced by photovoltaics depends on stochastic solar irradiation, where sudden and unpredictable changes often occur; these cause difficulties in grid planning and operation. Scientists are currently endeavouring to address and solve the above-mentioned challenges. Computational intelligence (CI) and machine learning (ML) approaches have attracted significant attention from researchers in many scientific fields, and modern distribution networks with photovoltaics are no exception. There are many potential applications of computational intelligence and machine learning in photovoltaic-rich distribution networks, and this Special Issue aims to address some of them and gather relevant scientific papers (research, as well as review) that attend to the application of CI and ML in modern distribution networks.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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