(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241060613 A

(19) INDIA

(22) Date of filing of Application :23/10/2022   (43) Publication Date : 28/10/2022

(54) Title of the invention : Customized convolution Neural Networks for Islanding Detection in Micro Grids

(51) International classification	:H02J0003380000, G06N0003080000, G06N0003040000, A61B0005000000, A61B0005145500
(86) International Application No Filing Date	:PCT// :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The ever increasing demand for electricity leads to the advancement of Distributed Generation (DG). Almost all DG sources are renewable nature. One of the major complications with the high penetration of DG sources is islanding. The islanding may damage the clients and their equipment. As per the IEEE 1547 DG interconnection standards, the islanding will be identified in two seconds and the DG must be turned off. In this paper, an advanced islanding detection process stands on a deep learning technique with Continuous Wavelet Transforms (CWT) and Convolution Neural Networks (CNN) implemented. This approach transforms the time series information into scalogram images, later the images are used to train and test the islanding and non islanding events. The outcomes are correlated with the Artificial Neural Networks (ANN) and Fuzzy logic methods. The comparison shows that the proposed deep learning approach efficiently detects the islanding and non islanding events.

No. of Pages : 12 No. of Claims : 5