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Solar Panel Crack Detection Using Faster Re-Current Neural Network (F-RCNN)

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Abstract: *In this paper we approach a new method of Deep learning Algorithm Convolutional Neural Network for the prediction of cracks in the solar panel. Solar energy is gaining strong momentum as the future clean and renewable source among other sources of energy. Solar power generation has attracted much attention but there are not enough specialists for condition monitoring of the solar panel. Safety and human cost is most valuable thing. Risking of human lives is not acceptable. So, it is a need to find a outcome for reducing the mortality of lives due to carcinogen present in solar panel. The Feature Extraction gives us a broad view about the image which is captured and help us to process the image for preprocessing. The given system has overcomes the errors and has higher efficiency than the current image processing Methods .By the usage of multiple hidden layers such as conv2D, maxpoolD, Flatten and Dense the crack is detected and it can be viewed by the user in the shell of python. By the help of classified image the cracked solar panel is removed before it gets bursts. Cracked Solar Panels may emits high Carcinogen agents so it is necessary to remove it. The covolutional neural network once predict the affected solar panel the data will send to the microcontroller via USBTOTTL. The microcontroller recive the value gps value send to the cayenne web page*

Keywords: Deep learning

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