

Satellite Imagery System for Pruning Vegetation Interference in Power Transmission Lines

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Abstract: *Vegetation encroachment in power transmission lines can cause outages, which may result in severe impact on electricity board as well as the consumer. Vegetation detection and monitoring along the power lines are implemented to protect power transmission lines from vegetation interference. There were various methods used to monitor the vegetation interference with power transmission lines, however, most of them were too expensive and time consuming. Satellite images can play a pivotal role in vegetation monitoring, because it can cover high spatial area with relatively low cost. The current methods depend usually on setting manually threshold values and parameters which make the detection process very static. Machine Learning (ML) and deep learning (DL) algorithms can provide a very high accuracy with flexibility in the detection process. Hence the potential of using Deep Learning based algorithms are also included. The input data were derived from satellite images, UAV images and other aerial images. This work is significant because it shows how satellite images that are already commercially available can be used for the large-scale assessment of vegetation encroachment on transmission lines.*

Keywords: DeepForest, Hough Transforms, Vegetation interference with transmission lines

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