Title: MediPlantNet: Leaf-Based Deep Learning Model for Bangladeshi Medicinal Plants

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Abstract: Medicinal plants are a vital asset in natural medicine, providing a multitude of medicinal advantages. The essential for safeguarding their therapeutic attributes and promoting research in physiotherapy. This research aims to create an effective deep learning model for classifying medicinal plant species through leaf images. A dataset of 2285 images of medicinal leaves from 11 distinct plant species native to Bangladesh was compiled. Several deep learning models, including analyzed to identify successful classification. Here proposed model MediPlantNet achieved high accuracy of 99.84% out performing other models. With accuracies of 99.68% and 99.60% respectively, DenseNet201 and VGG19 also showed impressive performance. GoogLeNets's accuracy rate was 97.30% whereas AlexNet and ResNet50 accuracy rates were 95.78% and 71.09%, respectively.

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