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Potato Plant Disease Detection using Deep Learning

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Abstract: *Agriculture is one of the essential sectors for the survival of humankind. Farmers who grow potatoes are facing a lot of economical losses every year because of diseases that happened to a potato plant and if a farmer can detect the disease early then it can save lots of waste and can prevent the ecnomic loss. At the same time, digitalization touching across all the fields that became easier to handle various difficult tasks. Adapting technology as well as digitalization is very crucial for the field of agriculture to benefit the farmer as well as the consumer. Due to adopting technology and regular monitoring, one can able to identify the diseases at the very initial stages and those can be eradicated to obtain a better yield of the crop. In this document, a methodology was proposed for the detection as well as the classification of diseases that occur for the potato plants. For this scenario, the openly accessible, standard, and reliable data set was considered which was popularly known as Plant Village Dataset. There are basically two types of Diseases in potato plant. 1) Early Blight (caused by fungus). 2) Late Blight (caused by small microorganism). For Image Processing and training of model CNN (Convolutional Neural networks) is used. For data cleaning and preprocessing tf dataset and augmentation is used etc.*

Keywords: Image Processing, CNN, Deep Learning, tf Dataset, Augmentation, Fast API, Machine Learning

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