Tomato Leaf Disease Detection using Flask Frame Work

Bharad Raj[1] and R. Priya[2]

PG Student, Department of Computer Applications[1]

Professor, Department of Computer Applications[2]

Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai, India

bharadraj87@gmail.com and priyaa.research@gmail.com

Abstract: *In recent years, plant leaf diseases has become a widespread problem for which an accurate research and rapid application of deep learning in plant disease classification is required, tomato is also one of the most important plants and seeds which are used worldwide for cooking in either dried or fresh form, tomato are a great source of protein that offer many health benefits, but there are a lot of diseases associated with tomato leaf which hinder its production. Thus, an accurate classification of tomato leaf diseases is needed to solve the problem in the early stage. A deep learning approach is proposed to identify and classify leaf disease by using public dataset of leaf image and CNN model with the open source library TensorFlow. In this project, we proposed a method to classify tomato leaf disease and to find and describe the efficient network architecture (hyper parameters and optimization methods). Moreover, after applying each architecture separately, we compared their obtained results to find out the best architecture configuration for classifying tomato leaf diseases and their results. Furthermore, to satisfy the classification requirements, the model was trained using CNN architecture check if we could get faster training times, higher accuracy and easier retraining. Deep learning is a branch of artificial intelligence. In recent years, with the advantages of automatic learning and feature extraction, it has been widely concerned by academic and industrial circles. It has been widely used in image and video processing, voice processing, and natural language processing. At the same time, it has also become a research hotspot in the field of agricultural plant protection, such as plant disease recognition. The application of deep learning in plant disease recognition can avoid the disadvantages caused by artificial selection of disease spot features, make plant disease feature extraction more objective, and improve the research efficiency and technology transformation speed. This review provides the research progress of deep learning technology in the field of crop leaf disease identification in recent years. In this project, we present the current trends and challenges for the detection of plant leaf disease using deep learning and advanced imaging techniques. We hope that this project will be a valuable resource for researchers who study the detection of plant diseases. At the same time, we also discussed some of the current challenges and problems that need to be resolved.*

Keywords: plant leaf diseases