

Methodology

Han bhai bore ho gye the to design laga diye



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## Methodology

This section comprises of various research methodology and relevant methods of application implementation broken down in how we collect data which are used for the training and validation, how these can predict for the desired outcome. A web-based application approach is discussed, and suitable deep learning techniques are made use of – for plant disease detection while achieving high levels of accuracy.

## Data collection

The methodology includes a brief explanation of the process in data collection. For the fulfilment of this research comprehensive data gathering was done and most data were collected from Kaggle. Kaggle, a subsidiary of Google LLC, is an online community of data scientists and machine learning practitioners. Kaggle allows users to find and publish data sets, explore, and build models in a web-based data-science environment, work with other data scientists and machine learning engineers, and enter competitions to solve data science challenges.[1]

## Prediction System

## Recommendation System

## Plant disease detection

For the objective of this implementational research to be fulfilled, a detection system was made by using the concept of object detection. Object detection is a computer technology related to computer vision and image processing that deals with detecting instances of semantic objects of a certain class (such as humans, buildings, or cars) in digital images and videos. Well-researched domains of object detection include face detection and pedestrian detection. Object detection has applications in many areas of computer vision, including image retrieval and video surveillance.[2]

The tool that was used for the real time detection of media was OpenCV. OpenCV (Open-Source Computer Vision Library) is an open-source computer vision and machine learning software library. OpenCV was built to provide a common infrastructure for computer vision applications and to accelerate the use of machine perception in the commercial products. Being a BSD-licensed product, OpenCV makes it easy for businesses to utilize and modify the code.

The library has more than 2500 optimized algorithms, which includes a comprehensive set of both classic and state-of-the-art computer vision and machine learning algorithms. These algorithms can be used to detect and recognize faces, identify objects, classify human actions in videos, track camera movements, track moving objects, extract 3D models of objects, produce 3D point clouds from stereo cameras, stitch images together to produce a high resolution image of an entire scene, find similar images from an image database, remove red eyes from images taken using flash, follow eye movements, recognize scenery and establish markers to overlay it with augmented reality, etc. OpenCV has more than 47 thousand people of user community and estimated number of downloads exceeding 18 million. The library is used extensively in companies, research groups and by governmental bodies.[3]

As for the detection system

## References

[1] [Kaggle - Wikipedia](https://en.wikipedia.org/wiki/Kaggle)

[2] [Object detection - Wikipedia](https://en.wikipedia.org/wiki/Object_detection)

[3] [About - OpenCV](https://opencv.org/about/)