Project Title : A Novel Method for Handwritten Digit Recognition System

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PROBLEM STATEMENT:

Handwriting recognition is one of the compelling research works going on because every individual in this world has their own style of writing. It is the capability of the computer to identify and understand handwritten digits or characters automatically. Because of the progress in the field of science and technology,everything is being digitalized to reduce human effort. Hence, there comes a need for handwritten digit recognition in many real-time applications. MNIST data set is widely used for this recognition process and it has 70000 handwritten digits. We use Artificial neural networks to train these images and build a deep learning model. Web application is created where the user can upload an image of a handwritten digit. this image is analyzed by the model and the detected result is returned on to UI

Who does the problem affect?	**Individuals :** It is useful for those who want to extract numbers from the written document. **Organisations :** It is useful for the companies which are dealing with courier services -> for recognising the pincodes ,phone numbers.
What are the boundaries of the problem?	People who Grow Crops and facing Issues of Plant Disease

What is the issue?	In case of manual reading of the digits, which is a monotonous work hence it is difficult to perform the task and human error is possible in manual reading. So, by using the automatic reader software (which can be build by using the digits recognition software) we can easily scan them and retrive the digits.
When does the issue occur?	During the development of the crops as they will be affected by various diseases.
Where does the issue occur?	When the person is distracted by other work and similarly when the person got tired there is a possibility of error.
Why is it important that we fix the problem?	It is required for the growth of better quality food products. It is important to maximise the crop yield.
What solution to solve this issue?	We are solving this problem by creating a automated digits recognition software using neural networks with a high accuracy and precision.

What methodology used to solve the issue?	Convolutional Neural Networks(CNN) were used to solve this issue.