Problem Statement

A Novel Method for Handwritten Digit Recognition System.

- The challenge is getting a computer system to read human-written digits. The objective is to accurately identify the digit after uploading a photograph of the handwritten digit.

- Our daily lives are filled with numbers, whether it's the licence plates on our cars or bikes, the cost of a product, the posted speed limit on the road, or information about a bank account. The requirement for a system to detect digits arises from the fact that humans are unable to retain all of these numbers.

- The main aim is to find the most effective model for digit recognition, it is important to compare the accuracy and execution times of the models mentioned.

- The capacity of computers to recognise human handwritten digits is known as handwritten digit recognition. Because handwritten numerals are imperfect and can be generated with a variety of tastes, it is a difficult work for the machine.

- To address this, use the handwritten digit recognition system. Issue that utilises a digit's image and identifies the digit that is present in the image. Convolutional Neural Network model for handwritten digit recognition built using Python module over the dataset.

- Handwriting number identification is a difficult topic that has been the subject of extensive research, particularly in recent years.

Question	Description
What does the problem affect?	Accuracy issues with handwriting recognition are a common occurrence. Reading the handwriting of others can be challenging. So how will a computer accomplish this? There is a vast spectrum of handwriting, both good and awful, which is the problem. Because of this, it might be challenging for programmers to give adequate examples of how each character might appear.
What are the boundaries of the problem?	The difficulty of handwritten digit recognition, which also involves the complexity of visual pattern recognition, must be decided because the manually written digits are not of equal size, thickness, position, and direction.
What is the issue?	Since handwriting numbers vary from person to person and are not always the same height, width, orientation, and justification to margins, the general issue would be when identifying the digits owing to the similarities between digits like 1 and 7, 5 and 6, 3 and 8, 2 and 5, 2 and 7, etc.
When does the issue occur?	Poor quality or unclear handwriting may be the most visible issue when processing handwritten forms during the data collecting process. Since the traditional perception of doctors' handwriting is well-known, it may be difficult to accurately record and validate data from this type of form-filling.
Where is the issue occurring?	All essential text fields are handled during the data capture and validation phases of any form-processing activity, which entails reading and extracting the written characters from the text.
Why is it important that we fix the problem?	Converting handwritten text into machine readable text is extremely difficult due to the wide variation in handwriting styles across individuals and the inferior quality of handwritten text compared to printed text. However, it's an issue that several sectors, including banking, insurance, and healthcare, need to solve.