

Project Design Phase-I Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID40635
Project Name	Project – A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM.
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>The handwritten digit recognition is the capability of computer applications to recognize the human handwritten digits.</p> <p>It is a hard task for the machine because handwritten digits are not perfect and can be made with many different shapes and sizes.</p> <p>The handwritten digit recognition system is a way to tackle this problem which uses the image of a digit and recognizes the digit present in the image.</p>
2.	Idea / Solution description	<p>The algorithm used is Convolution Neural Network (CNN). This will prepare the trained model which will be used to classify the digit present in the test data. Thus, we can classify the digits present in the images as: Class 0,1,2,3,4,5,6,7,8,9.</p> <p>The artificial neural networks can all most mimic the human brain and are a key ingredient in image processing field.</p>
3.	Novelty / Uniqueness	<p>Novelty in handwritten papers might include, among other things, a change in the writer, character properties, writing attributes, or overall document appearance. Instead of examining each element separately, we believe that an integrated agent capable of processing known characters and novelties concurrently is a superior technique. The handwritten digit recognition problem can be seen as a subtask of the optical character recognition (OCR) problem.</p>
4.	Social Impact / Customer Satisfaction	<p>In addition to reading postal addresses and bank check amounts, it is also useful for reading forms. Furthermore, it's used in fraud detection because it makes it easy to compare two texts and determine which one is a copy. As a result, this system fulfills customer's expectations, as it is a novel method for recognizing handwritten digits, ensuring high accuracy for the model and meeting all user expectations.</p>
5.	Business Model (Revenue Model)	<p>The applications where these handwritten digit recognition can be used are Banking sector used to maintain security pin numbers, also used for blind peoples by using sound output.</p>

		Some of the research areas include signature verification, bank cheque processing, postal address interpretation from envelopes etc..
6.	Scalability of the Solution	IBM cloud build helps run and manage AI models, optimize decisions at scale across any cloud. We can take automate AI lifecycles with ModelOps pipelines, deploy and run models through one click integration and also prepare and build models visually and programmatically.