

Project Design Phase
Proposed Solution

Date	24 September 2022
Team ID	PNT2022TMID45235
Project Name	Project - A Novel Method for Handwritten Digit Recognition with Neural Networks
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Manually written digits are of a different size, thickness, position and direction. In this manner, various difficulties must be considered to determine the issue of handwritten digit recognition. Humans can easily do a task accurately by frequently rehearsing it and recalling it for the next time. Images are easily processed and analyzed by the human brain and recognize the various components
2.	Idea / Solution description	In this, we are going to implement a classification algorithm to recognize the handwritten digits. This may effective and efficient in order to recognize digits which are of different compositions.
3.	Novelty / Uniqueness	A practical method for addressing novelty in the field of handwriting visual recognition is introduced. Unlike OCR which recognize all the character, it can accurately recognize the digits.
4.	Social Impact / Customer Satisfaction	Even the unclear or blurred digits can be recognized after the removal of noise and data preprocessing. One such application is a handwritten digit recognition system that can be used in postal mail sorting, bank check processing, form data entry, etc., Then it also saves time and work load in sectors which uses this technology.

5.	Business Model (Revenue Model)	Handwritten addresses are difficult to sort by machine, not necessarily because of sloppy handwriting, but because people write all over the envelope. Humans recognizing the handwritten digits with their naked eye can be difficult at times as it of different sizes, thickness, direction and ca also lead to making errors due to these factors. This is when our proposed solutions comes into help. We provide different data sets which helps in recognition with accuracy, so that human making errors can be avoided.
6.	Scalability of the Solution	A system that can accommodate expansion without hampering the existing workflow and ensure an increase in the output or efficiency of the process, is a scalable system. The handwritten digit recognition system is a capability of computer application to recognize the human handwritten digits.