Project Design Phase-I

Proposed Solution

Date	29 September 2022
Team ID	PNT2022TMID20820
Project Name	A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Proposed Statement (Problem to be solved)	In this world, digit recogni on is more important. It is capable of solving increasingly difficult problems and making humans jobs easier. Handwri en digit recogni on is one example. This is a worldwide system for recognizing zip codes or postal codes for mail sor ng. Handwri en digit recogni on can be accomplished using a variety of approaches. The solu on to this issue is handwri en digit recogni on, which uses an image of a digit and iden fies the digit represented in the image.
2.	Idea / Solu on Descrip on	Handwri en digit recogni on is performed using the MNIST dataset which contains 60,000 training images of handwri en digits from zero to nine and 10,000 images for tes ng. So, the MNIST dataset has 10 different classes. In this project, we are going to implement a handwri en digit recogni on applica on trained using the Convolu onal Neural Networks model. where the user gives the handwri en digit as input, where it is recognized and the result is displayed immediately
3.	Novelty / Uniqueness	This project introduces an opera ve strategy for dealing with novelty in the handwri en visual recogni on domain. A perfect transcrip on agent would be able to dis nguish known and unknown characters in a picture, as well as determine any aesthe c varia ons that may occur inside or between texts. The existence of novelty has shown to be a major stumbling block

		for even the most robust machine learning-based algorithms for these ac vi es. Novelty in handwri en papers might include, among other things, a change in the writer, character proper es, wri ng a ributes, or overall document appearance. Instead of examining each element separately, we believe that an integrated agent capable of processing known characters and novel es concurrently is a superior technique. The handwri en digit recogni on problem can be seen as a subtask of the op cal character recogni on (OCR) problem
4.	Social Impact / Customer Sa sfac on	There are many benefits associated with the handwri ng recogni on system. In addi on to reading postal addresses and bank check amounts, it is also useful for reading forms. Furthermore, it's used in fraud detec on because it makes it easy to compare two texts and determine which one is a copy. As a result, this system fulfills customers' expecta ons, as it is a novel method for recognizing handwri en digits, ensuring high accuracy for the model and mee ng all customer expecta ons. Users will save a lot of me and effort if the system provides various synonyms for the words recognized. Due to the fact that the users in rural areas will be using their own regional language, this proposed system should be able to detect those digits as well. As the system is being used in socially crowded places such as banks to check amounts, it should be fast and reliable. As it is designed to solve real-world problems, it should be highly reliable and trustworthy in every way, and users throughout the world should be able to use it effec vely
5.	Business Model (Revenue Model)	A revenue model means understanding how a startup can make money. Our major revenue sources consist of sales, government funds, and public dona ons. The introduc on of novel ideas increases revenue streams, such as introducing gesture or touch features , voice read out of recognised digits, etc..

6.	Scalability of the solu on	One of the approaches to make the handwri en digit recogni on system scalable is to make use of cloud-na ve methods. For example, one of the cloud solu ons for making AI scalable is IBM Cloud. IBM Cloud Build helps run and manage AI models, op mize decisions at scale across any cloud. The advantage of using cloud to make solu ons scalable is that we can deploy our AI applica on on