A Novel Method For Handwritten Digit Recongnition System

AGENDA

* Introduction
* Dataset
* MNIST Dataset
* Implementation Steps
* Requirements .txt file
* Future Scope & Apps & AI
* Conclusion

INTRODUCTION

* The Handwritten digit recognition is the capability of computer application to recognize the human handwritten digits.It is a hard task for the machine because handwritten digits are not perfect and can be made with many different shapes and sizes.

* 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.

* Convolution Neural Network model created using PyTorch library over the MNIST dataset to recognize handwritten digits.

DATASET

* The MNIST dataset is an acronym that stands for the Modified National Institute of Standards and Technology dataset.

* It is a dataset of 60,000 small square 28×28 pixel grayscale images of handwritten single digits between 0 and 9.

* The task is to classify a given image of a handwritten digit into one of 10 classes representing integer values from 0 to 9, inclusively.

IMPLEMENTATION STEPS

(1) Import the libraries and load the dataset

(2) Preprocess the data

(3) Create the model

(4) Train the model

(5) Evaluate the model

(6) Create GUI to predict digits

REQUIREMENTS .TXT FILE

(1) torch

(2) numpy==1.16.5

(3) flask==1.1.1

(4) gunicorn

(5) matplotlib==3.3.1

(6) pillow==6.2.0

(7) flake8

(8) pip

(9) pylint

FUTURE SCOPE

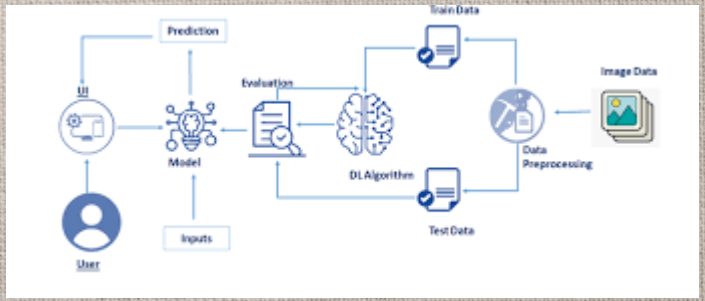
* The task of handwritten digit recognition, using a classifier, has great importance and use such as – online handwriting recognition on computer tablets, recognize zip codes on mail for postal mail sorting, processing bank check amounts, numeric entries in forms filled up by hand (for example - tax forms) and so on.

BEST HANDWRITING RECOGNITION APPS

* MyScript Nebo.
* Notes Plus.
* Mazec.
* Pen to Print.
* Notability.
* Gboard with Google handwriting input.
* Handwriting Recognize.
* GoodNotes 5

HANDWRITING RECOGNITION IN AI

* Handwriting recognition (HWR), also known as handwritten text recognition (HTR), is the ability of a computer to receive and interpret intelligible handwritten input from sources such as paper documents, photographs, touch-screens and other devices.



ADVANTAGES

(1) The system not only produces a classification of the digit but also a rich description of the instantiation parameters which can yield information such as the writing style.

(2) The generative models can perform recognition driven segmentation.

(3) The method involves a relatively.

CONCLUSION

* The Handwritten digit recognition using convolutional neural network has proved to be of fairly good efficiency.

* It works better than any other algorithm,including artificial neural networks.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Thank You