PROJECT REPORT ON HAND WRITTEN DIGIT RECOGNIZER

SUBMITTED BY-

Anshika Singh

Nitesh Gupta

Tushar Garg

Vrattant Arora

Rupal Mittal

SUBMITTED TO-

Mr. Anoop Thomas Jacob

**PROJECT DESCRIPTION**

The project(Hand Written Digit Recognizer) is developed in python 3.6 .It takes an image and recognizes the digit in it. We have used Django REST framework. It is an open source web application framework, written in Python. RESTful services are a way of providing interoperability between computer systems on the internet.

To run this project, we have to install many libraries of python such as numpy, scipy, matplotlib, scikit-learn, pandas and pil. We’ve used Machine learning to trained the data and recognize the digit. Random forest classifier is used to do the same. We made the training data set. The training data set contain 42000 samples of 28**×**28 image. This means, we have 784 features of a image and 10 lables(0-9).

**TECHNOLOGY STACK USED**

Front End: Angular JS

Server: Python, Django and Django Rest framework

Database: SQLite

A restful web application which has two separate parts will be created .The first is the back end which will be created with Django and the Django REST framework and the second part is the front end which will be built using Angular JS.

**CONSTRAINTS**

* Image should be 28**×**28 to get the desired output
* Projects is working only for a single digit(eg. 1,2,4 etc), not for multidgits(eg. 1234)
* Input image background should be black and digit colour should be white to get the desired result