2nd May, 2022

Computer Science and Engineering
IIT-BHU

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Exploratory Project Presentation on Handwritten Digit Recognition

Objective

- Through this project, we have attempted to predict the value of digits from the images of their handwritten form.
- For this purpose, have used Multivariate Time Series(MTS)data obtained from a 9-axis IMU sensor attached to a marker pen.

Research Background & Motivation

The subject of “Handwritten digit recognition” is of great concern and has many applications in various fields like zip code recognition.

Handwritten Digit Recognition poses many challenges as different people have different writing styles and it is not Optical Character Recognition.

Contribution

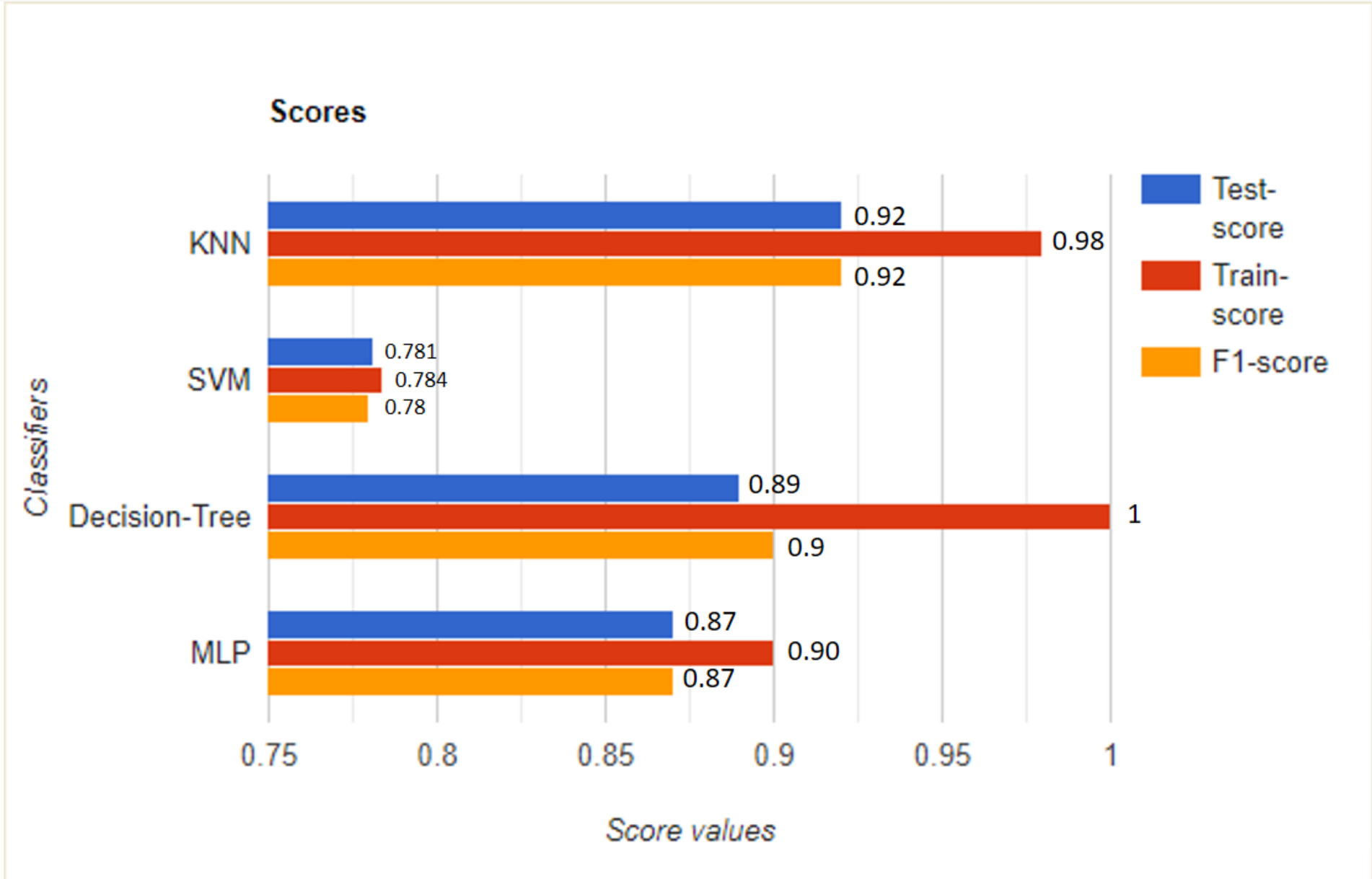
Dataset

A set of around 4.4 lakh examples with pre-classified digit values has been used for training.

Method

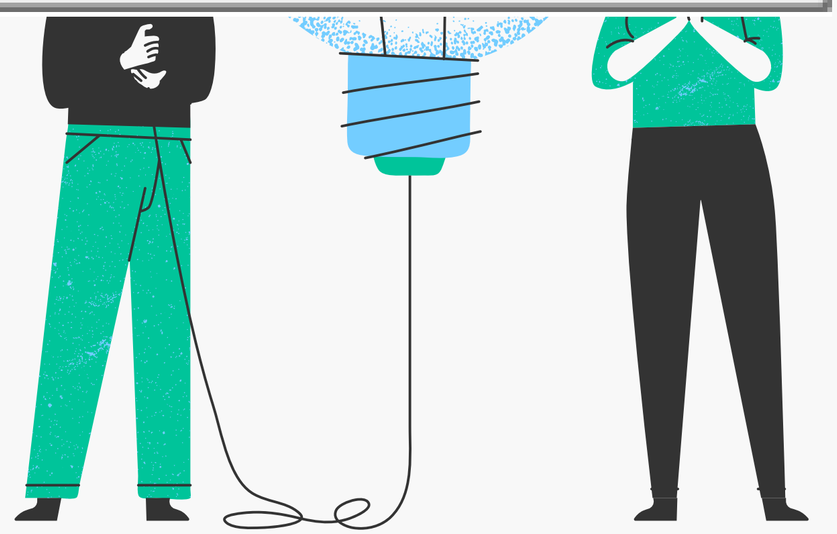
We have used 4 classifier algorithms to predict the digit values for our Test set of size around 1.8 lakh. and compared their performance using various metrics.

Outcomes and Discussion



Outcomes and Discussion

MODEL	TRAINING TIME	PREDICTION/TEST TIME
KNN	1.08 secs	17.53 secs
SVM	188.31 secs	44.74 secs
Decision Tree	10.39 secs	0.05 secs
MLP	72 mins	1.58 secs



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Thank You