ML Studio

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Abstract: *The important objective of this system is to provide easy access to Machine Learning modules at same place. User will has access to do practice at hands on using our proposed system. It will help user to not only for learning purposes but also for practices of programming. User can also make his own module and compare with the pre-existing module to check better results and to improve his/her module according to comparison result.*

Key Words: **Machine Learning, Modules, Visualization, MATLAB, DLIB**

1.INTRODUCTION

Proposed system will provide easy access to different modules of machine learning, which will help users to understand and implement according to their will. As per previous system user had to search various machine learning in vast internet. This system helps to access various machine learning modules at single place. The project also includes a quizlet on the modules learnt by the users and other ML libraries. Also user going to have access to modify different algorithms present and can compare with existing algorithms

2.EXISTING SYSTEM

There was no existing educational system to learn about machine learning libraries specifically at single place, if we want to know about or learn about Machine learning we have to search in the vast source of internet .The existing educational sites also do not provide us knowledge about multiple machine learning libraries at one place.

Only preexisting code is available in existing system, which is only available for learning purpose only but there is no such option available to perform hands on over different module at a single place. There is no such option available for comparing user modules with existing modules.

3. MACHINE LEARNING

"AI is the learn about of getting PCs to study and act like people do, furthermore, improve their mastering over the long run in independent style, by way of taking care of the information and records as perceptions and certifiable communications." AI calculations use measurements to discover designs in massive* measures of information.

What's more, information, here, envelops a ton of things—numbers, words, pictures, clicks, what have you. On the off danger that it tends to be carefully put away, it very nicely may additionally be taken care of into an AI calculation.

AI is the cycle that powers large numbers of the administrations we use today—proposal frameworks like these on Netflix, YouTube, and Spotify; web crawlers like Google and Baidu; web-based media channels like Facebook and Twitter; voice colleagues like Siri and Alexa. The rundown goes on. Altogether of these cases, each and every stage is gathering as a good deal information about you as may want to be expected—what lessons you like watching, what joins you are clicking, which conditions with are responding to—and utilizing AI to make a profoundly urged surmise about what you may want straightaway. Machine learning gives make machine smart and reliable.

A.SUPERVISED LEARNING :

Supervised learning is that the type of machine learning during which machines are trained using well "labeled" training data, and on basis of that data, machines predict the output. The labeled data means some input file is already tagged with the right output.

A supervised learning algorithm aims to seek out a mapping function to map the input variable(x) with the output variable(y).

I. REINFORCEMENT LEARNING:

Using this algorithm, the machine is trained to make specific decisions. It works this way: the machine is exposed to an environment where it trains itself continually using trial and error. This machine learns from past experience and tries to capture the best possible knowledge to make accurate business decisions. Example of Reinforcement Learning: Markov Decision Process.

II. KNN (K- NEAREST NEIGHBORS):

It can be used for both classification and regression problems. However, it is more widely used in classification problems in the industry. K nearest neighbors is a simple algorithm that stores all available cases and classifies new cases by a majority vote of its k neighbors. It can be used for both classification and regression problems. However, it is more widely used in classification problems in the industry. K nearest neighbors is a simple algorithm that stores all

available cases and classifies new cases by a majority vote of its k neighbors. The case being assigned to the class is most common amongst its K nearest neighbors measured by a distance function.

ALGORITHM :

A case is classified by a majority vote of its neighbours, with the c   K nearest neighbours measured by a distance function. If K = 1, t   t neighbour.

$$Euclidian = \sqrt{\sum_{i=1}^{k}(x_i - y_i)^2}$$

$$Manhattan = \sum_{i=1}^{k}|x_i - y_i|$$

$$Minkowski = (\sum_{i=1}^{k}(|x_i - y_i|)^q)^{1/q}$$

4. PROPOSED SYSTEM

In our system we overcome the drawbacks of existing system. In the proposed system user will have access to all Machine learning modules at a single place. User does not have to to deep mining over the vast internet for each module of Machine Learning. In proposed system we will bring all the Machine learning modules at a single place to learn, to implement, to practice. We are also going to add comparison system between existing module and user modified module and to check the execution time. It will help to reduce efforts of mining the Modules over vast internet. It will be considered as educational system for user to learn.

We have also added the Quiz Zone in the system where user will be able to try various quizzes based on Machine Learning, It will have levels of quizzes from easy, moderate to hard and user can choose any level as per his/her needs and it will also show the Leadership board of Quiz Competition based on Levels of Quizzes
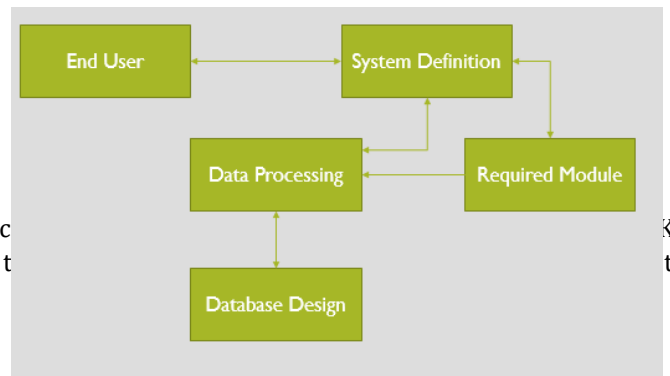

Fig.1 System Design

5. MODULES USED

In proposed system we are going to use lots of various modules but for starting phases we are going to add below mentioned modules.

5.1 COUNTRY WISE TEMPERATURE VISUALIZATION

This module will help to detect and visualize temperatures of earth using Data visualization which can be implemented using Python and MATLAB
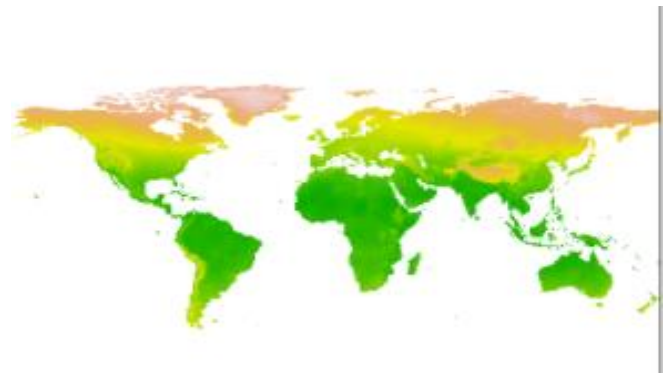

Fig 2. COUNTRY WISE TEMPERATURE VISUALIZATION

5.2 TOOL BOX OF IMAGE PROCESSING USING PYTHON LANGUAGE

A generic computational tool for image processing usually offers two levels of programming: a script interpreted language serving for interface to a library of high performance normally written in C or Fortran. Python, as well as the Numerical package, offers this organization through a well-defined modular form to program. This association guarantees efficient multidimensional computation that is essential for image processing. There are diverse appropriate tools for image process- ing nowadays. The objective is to congregate the positive features of platforms such as MATLAB and on-line image processing course such as the Digital Image Processing.
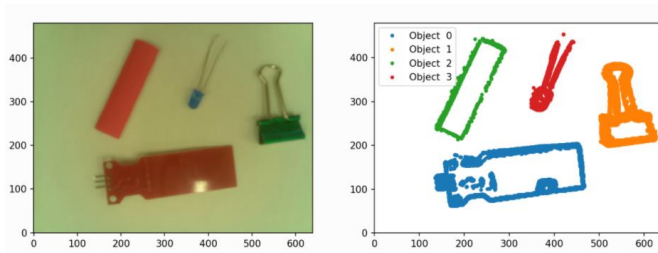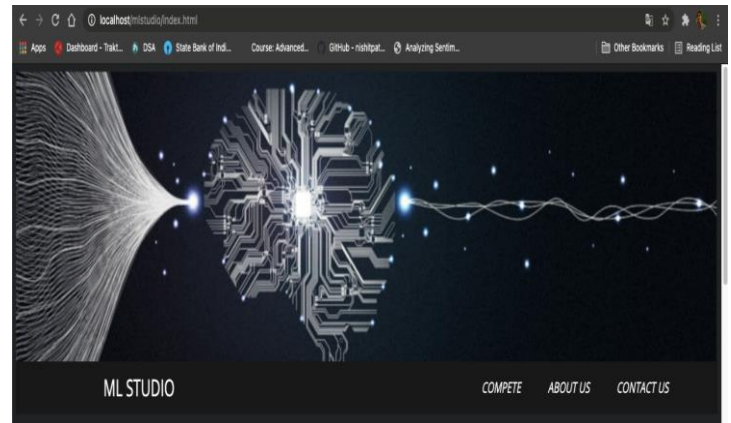
fig.4 tool box of image processing using python language

5.3 FACE DETECTION AND RECOGNITION USING DLIB

The dlib library is arguably one of *the* most utilized packages for face recognition. A Python package appropriately named face_recognition wraps dlib's face recognition functions into a simple, easy to use API.
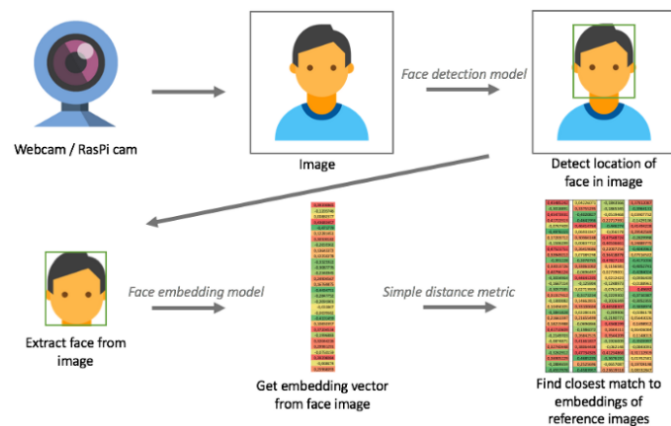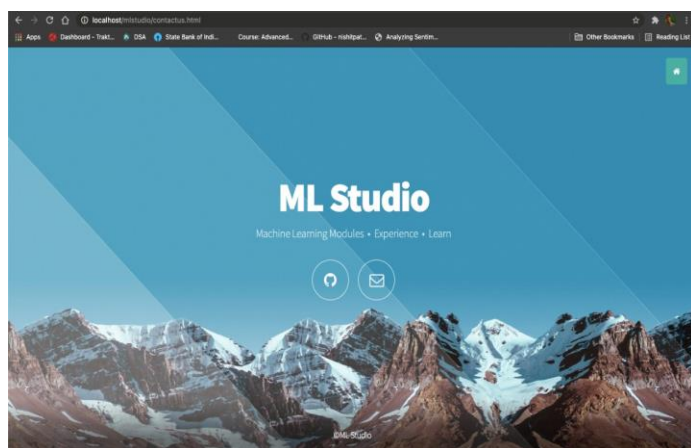

Fig.4 Face detection & recognition using DLIB

6. RESULT:

This is the User Interface (UI) of our page where user will be able to access the ML Studio and It's Modules

7. CONCLUSIONS

System removes barriers between student and technologies in machine learning and simplifies way of learning complex technologies. It is important that we have an educational site for providing knowledge about machine learning – a nice technology today to choose a career in among students. This was can help users to be informed about day to day advancements in machine learning and learn those technologies as well

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