

A Project Report

on

Web Application of Machine Learning in Django

*Submitted in partial fulfillment of the
requirement for the award of the degree of*

Bachelor Of Technology in Computer Science and Engineering



**Under The Supervision of
Dr. A. DANIEL
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INDIA MAY, 2021-22**



**SCHOOL OF COMPUTING SCIENCE AND
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CANDIDATE'S DECLARATION

I/We hereby certify that the work which is being presented in the project, entitled “**Machine Learning Web application in Django**” in partial fulfillment of the requirements for the award of the **BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING** submitted in the School of Computing Science and Engineering of Galgotias University, Greater Noida, is an original work carried out during the period of month, DECEMBER - 2021 to MAY - 2022, under the supervision of **Dr. A DANIEL, Associate Professor**, Department of Computer Science and Engineering, of School of Computing Science and Engineering, Galgotias University, Greater Noida.

The matter presented in the thesis/project/dissertation has not been submitted by me/us for the award of any other degree of this or any other places.

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This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Supervisor Name & Designation

(Dr. A DANIEL, Associate Professor)

CERTIFICATE

The Final Thesis/Project/ Dissertation Viva-Voce examination of **Aman Gupta-18SCSE1010426, Aman Agarwal-18SCSE1010277** has been held on and his/her work is recommended for the award of **BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING**

Signature of Examiner(s)

Signature of Supervisor(s)

Signature of Project Coordinator

Signature of Dean

Date: May, 2021-22

Place: Greater Noida

Abstract

The intention of this Project is to suggest the sketch and architecture of a testable, adaptable, and adept web-based application that imitations and implements machine learning algorithm. There are many different components that form the architecture of our web-based application involving server, database, programming language, web framework, and front-end design.

There are also other determinant concord with our application such as testability, adaptability, performance, and design pattern. Our main attract in this Project is to find out a real world problem using motion technology like data science machine learning which in mathematical terms is described as an application of artificial intelligence where available information is used through algorithms to process or comfort the processing of statistical data. While Machine Learning includes concepts of automation, it want human counselting.

TOOLS AND TECHNOLOGY

- Scikit-Learn. Scikit-Learn is an open-source package in ML.
- Knime. Knime is an open-source Machine Learning tool and it is GUI based.
- Tensorflow. Tensorflow is an open-source framework for numerical and large-scale ML.
- Weka.
-
- Pytorch
- Rapid Miner
- Google Cloud AutoML
- Azure Machine Learning Studio.

RESULT AND OUTPUT

The output of the training process is **a machine learning model which you can then use to make predictions**. This process is also called “learning”. Regression: Regression techniques are used when the output is real-valued based on continuous variables. For example, any time series data.

Machine learning algorithms are described as learning a target function (f) that best maps **input variables (X) to an output variable (Y)**. This is a general learning task where we would like to make predictions in the future (Y) given new examples of input variables (X).

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Acronyms

ML	Machine Learning
Pyt	Python
SVM	Support Vector Machines
Fig	Figure
AI	Artificial Intelligence
KNN	K-Nearest Neighbour
Tech.	Technology

CHAPTER-1

Introduction

Web application credit to a software system that affords a user interface through a web browser. Examples of web applications contain blogs, onlineshopping, search engines, etc.

Now a Days Web application smash a urgent role from ordering food from a restaurant, ordering any electronic thingsor anything from web apps, vigilant movies, book a seat for a movie theater, for study, download sketches from the internet, and many more. Web applications can be designed for a roomy variance of uses and can be used by anyone; from an standardization to anreserved for thick reasons. Generally used Web applications can cover web- mail, online calculators, or e-commerce shops. Few Web apps can be only secured by a unique browser; however, most are available no concern the browser.

Every Service now a days has applications. If we want to order food but do not like to talk to dignitary, we simply go for the web apps or mobile apps and ordered food and it is the more appropriate and easy procedure.

Machine learning is merely based on predictions made based on experience. It enables machines to make data-driven decisions, which is more efficient than explicitly programming to carry out certain tasks. These algorithms are designed in a fashion that gives exposure to new data that can help organisations learn and improve their strategies.

Future Scopes of Machine Learning

The scope of Machine Learning is not limited to the investment sector. Rather, it is expanding across all fields such as banking and finance, information technology, media & entertainment, gaming, and the automotive industry. As the Machine Learning scope is very high, there are some areas where researchers are working toward revolutionizing the world for the future.

Automotive Industry

The automotive industry is one of the areas where Machine Learning is excelling by changing the definition of ‘safe’ driving. There are a few major companies such as Google, Tesla, Mercedes Benz, Nissan, etc. that have invested hugely in Machine Learning to come up with novel innovations. However, Tesla’s self-driving car is the best in the industry. These self-driving cars are built using Machine Learning, IoT sensors, high-definition cameras, voice recognition systems, etc.

Robotics

Robotics is one of the fields that always gain the interest of researchers as well as the common. In 1954, George Devol invented the first robot that was programmable and it was named **Unimate**. After that, in the 21st century, Hanson Robotics created the first AI-robot, **Sophia**. These inventions were possible with the help of Machine Learning and Artificial Intelligence.

Quantum Computing

We are still at an infant state in the field of Machine Learning. There are a lot of advancements to achieve in this field. One of them that will take Machine Learning to the next level is Quantum Computing. It is a type of computing that uses the mechanical phenomena of quantum such as entanglement and superposition. By

using the quantum phenomenon of superposition, we can create systems (quantum systems) that can exhibit multiple states at the same time. On the other hand, entanglement is the phenomenon where two different states can be referenced to each other. It helps in describing the correlation between the properties of a quantum system.

Improved cognitive services

With the help of machine learning services like SDKs and APIs, developers are able to include and hone the intelligent capabilities into their applications. This will empower machines to apply the various things they come across, and accordingly carry out an array of duties like vision recognition, speech detection, and understanding of speech and dialect. Alexa is already talking to us, and our phones are already listening to our conversations— how else do you think the machine “wakes up” to run a google search on 9/11 conspiracies for you? Those improved cognitive skills are something we could not have ever imagined happening a decade ago, yet, here we are. Being able to engage humans efficiently is under constant alteration to serve and understand the human species better.

Multi-agent learning, robot vision, self-supervised learning all will be accomplished through robotisation. Drones have already become a normality, and have now even replaced human delivery men. With the rapid speed technology is moving forward, even the sky is not the limit. Our childhood fantasies of living in an era of the Jetsons will soon become reality. The smallest of tasks will be automated, and human beings will no longer have to be self-reliant because you will have a bot following you like a shadow at all times.

Technology Used:

- **Python-** Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects. Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.
- **Jupyter Notebook-** The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.
- **HTML:** Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.
- **CSS:** Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.
- **Django:** Django is a Python-based free and open-source web framework that follows the model template-views maintained by the

Django Software Foundation, an American independent organization established as a 501 non-profit.

- **SQL lite Database:** SQLite is a relational database management system contained in a C library. In contrast to many other database management systems, SQLite is not a client–server database engine. Rather, it is embedded into the end program.

CHAPTER-2

Literature Survey/Project Design

Machine Learning has been a trending technology and is being evolved so much in the recent couple of decades. The demand is growing so much and it is expected that in the coming to years this particular technology will be used in most of the real world problems. Some most common uses of Machine learning technology are like in Gmails it is used for filtering out the emails, In medicals it is used for analysing various health reports .

AI and ML today are widely used in recommendation systems. Like on Netflix, Facebook (now known as Meta), Amazon, YouTube are using this technology on a large scale. They are directly targeting their customers according to their likes. This is what we call as targeted marketing strategy.

Machine learning is also used for various classification techniques like it is used in the process of biometric authentication. It is used in Eye scanning which is used for security purposes .Iris scanning is a process in which iris of a man is recognized and the unique pattern is used for various authentication purposes.

Today we focus a lot on the safety features hence this is one of the best way of authenticating a human being. In recent studies the scientists a few algorithms of Machine Learning have gained popularity like to name a few we have Logistic Regression, Support Vector Machines , Random Forest Classification Algorithm.

With the revolution of the medical infrastructure in the recent years, the smart healthcare system has been paid more considerable attention [1]. Smart healthcare is a novel concept that refers to a set of rules that integrate prevention, diagnosis,

treatment, and management. Different from traditional medical systems, smart medical systems can connect and exchange information at any time and place

Compared with traditional medical treatment, smart healthcare has the characteristics of preventability, immediacy, and interconnection of information. Through wireless network, using portable mobile devices, medical staff can constantly perceive, process, and analyze major medical events (preventability). Doctors can grasp the case information of each patient at any time and quickly develop a diagnosis and treatment plan (immediacy). Medical personnel can log in the medical system anywhere to inquire about medical images and medical advice and patient's referral information can be accessed at any hospital through the medical network (interconnection of information). These functions are supported by new digital technologies. BC follows absolute privacy rules to identify users related to transactions. It is mainly used for the management of information systems to help achieve secure storage, transactions, process automation, and other applications [3]. ML is the leading technology for performing complex analysis, intelligent judgment, and creative problem solving in healthcare [4].

Generally, previous studies related to application of digital technologies in smart healthcare domain were limited to study in one field or one country. No studies have mapped the current status of these two technologies in the medical field. Also, there is no relative study that specifically addresses the relationship between authors, affiliations, keywords, and the hotpots of the research. In the past five years, the study of smart healthcare has attracted extensive attention from scholars of a series of disciplines, which requires us to integrate the viewpoints of scholars of different disciplines and study the status to seek deeper discoveries.

Therefore, this research proposed portraying the status of application of two types of digital technologies, ML and BC, in smart healthcare studies by bibliometric visualization. In this paper, we have presented a comprehensive review on the application of ML and BL techniques in the healthcare sector. We analyze the research status in terms of countries, institutions, publication volume, authors, journals, sponsors, and subject areas. In addition, this paper subdivides the main application scenarios of the prior art in the medical field. Our research will provide healthcare practitioners with an insight to keep ML and BC technologies fully utilized. Finally, we analyze the latest research trends based on ML and BC technology in order to provide a research direction for future research.

Literature search is divided into two steps: subject word search and manual screening. The first step is subject word search in the Web of Science core data set using the retrieval formula $TS = (\text{"machine learning"} \text{ OR } \text{"blockchain"}) \text{ AND } TS = (\text{"smart healthcare"})$. The first round of screening finally obtained 118 documents (data gathering took place in May 2021). The second step is manual literature screening. Our purpose is to eliminate the document that is not relevant to this field and to obtain the research direction and research progress in this field more accurately. The team members carefully read the titles, keywords, and abstracts of 118 documents and scanned the full text when necessary to ensure the relevance of the document. Finally, 112 documents were obtained as our research objects.

Our research process is divided into four steps: problem formulation, literature search, basic analysis, and VOSviewer analysis.(1)Problem formulation: Our study aims to provide a comprehensive presentation of the application of ML and BC in the field of smart medicine by visualizing existing publications. To achieve this

goal, we developed and solved the following research questions: How much attention have scholars paid to emerging technologies and smart medicine in recent years? What are the representative literatures? What are the current research topics and how are they evolving?(2)Literature search: Literature search is divided into two steps: subject word search and manual screening. The first step is subject word search in the Web of Science core data set using the retrieval formula $TS = ("machine\ learning" OR "blockchain") AND TS = ("smart\ healthcare")$. The first round of screening finally obtained 118 documents (data gathering took place in May 2021). The second step is manual literature screening. Our purpose is to eliminate the document that is not relevant to this field and to obtain the research direction and research progress in this field more accurately. The team members carefully read the titles, keywords, and abstracts of 118 documents and scanned the full text when necessary to ensure the relevance of the document. Finally, 112 documents were obtained as our research objects. Basic analysis: Basic analysis refers to the analysis results that can be directly exported from the WOS database or can be obtained through statistics. We conducted a statistical analysis of the year in which the literature was published, the research field, the fund sponsor, and so on. Through basic analysis, researchers can gauge changes in scholars' and institutions' interest in research in the field and understand research trends.VOSviewer analysis: VOSviewer analysis is to use VOSviewer to build a bibliometric network. We listed the most influential authors and literature in the field and showed heat maps of keyword research. We also used a clustering technique based on keywords cooccurrence to study the conceptual structure and distinctive clusters of a research field.

India, China, Saudi Arabia, and other countries have published more documents in the field of smart medicine, which can be explained from three aspects. First of all, the medical level of developing countries such as India, China, and Saudi Arabia needs to be improved and they need to rely on new technologies to further improve the efficiency and quality of medical treatment. Secondly, machine learning, blockchain, and other new technologies have wide application markets in China, India, and Saudi Arabia. There is a great demand for new technologies in the medical industry, which provides conditions for technology commercialization. Finally, the large number of documents in countries such as China and Saudi Arabia is also influenced by the funding they received.

CHAPTER-3

Functionality/Working of Project

Machine Learning is the sub-field of Artificial Intelligence. It helps to build automated systems that can learn by themselves. Then, the system enhances their performance by learning from experience without any human intervention. This helps the machines make data-directed choices. Whatever the machines learn from past experience using the available data, the machines use it to make predictions. For example, you must have used Google Maps for navigation. It tries to show the fastest route with less traffic and congestion. It accomplishes this task by using Machine Learning algorithms.

Engineers create the Machine Learning algorithms in such a way that the algorithm gets used to explore and experience new data for prediction. This gives the benefit to the organization for making effective business strategies as per the predictions of the ML algorithms. Now, let us check the future scope of Machine Learning in various sectors.

The automotive industry is one of the areas where Machine Learning is excelling by changing the definition of ‘safe’ driving. There are a few major companies such as Google, Tesla, Mercedes Benz, Nissan, etc. that have invested hugely in Machine Learning to come up with novel innovations. However, Tesla’s self-driving car is the best in the industry. These self-driving cars are built using Machine Learning, IoT sensors, high-definition cameras, voice recognition systems, etc.

Machine learning functions let you work with your data set in different stages of the data analysis process:

- Preparing models
- Training models
- Evaluating models
- Applying models
- Managing models

Some Vertica machine learning functions are implemented as Vertica UDX functions, while others are implemented as meta-functions:

- A UDX function accepts an input relation name from a FROM clause. The SELECT statement that calls the functions is composable—it can be used as a sub-query in another SELECT statement.
- A meta-function accepts the input relation name as a single-quoted string passed to it as an argument or a named parameter. The data that the SELECT statement returns cannot be used in a sub-query. Machine learning meta-functions do not support temporary tables.

All machine learning functions automatically cast NUMERIC arguments to FLOAT.

There are different ways an algorithm can model a problem based on its interaction with the experience or environment or whatever we want to call the input data.

It is popular in machine learning and artificial intelligence textbooks to first consider the learning styles that an algorithm can adopt.

There are only a few main learning styles or learning models that an algorithm can have and we'll go through them here with a few examples of algorithms and problem types that they suit.

This taxonomy or way of organizing machine learning algorithms is useful because it forces you to think about the roles of the input data and the model preparation process and select one that is the most appropriate for your problem in order to get the best result.

CHAPTER-4

Results and Discussion

- **Hardware Requirement:** The hardware system required must be of at least 4GB of RAM with windows 10 or more as operating system. The other operating systems that can be used for successful execution of the software application are MAC Os, Linux etc.
- **Software Requirement:** The system must have any IDE (Integrated Development Environment) to run and execute the code. Also it should have a good internet connection to load all the styles from the CDN's embedded in the code.
- **Software Description:**The software product created is a web application created in Django framework. The software takes the input from the users and it tries to classifies the plant species based on the 4 inputs (sepal length , sepal width , petal length , petal width).
- **Machine Learning (ML)**
 1. **Machine Learning Features of Python:** Machine Learning are popular technologies that allow web applications to learn and observe from a user's preferences and habits. ML-enabled websites are on-trend everywhere. One reason is that ML uses genetic algorithms and neural networks to build artificial intelligence into web applications from scratch. And this is now easy to implement for most companies.

In machine the browser can understand all html tags and when we make a webpage or web layout using HTML tags and run on browser then browser can understand the tags and show it. In development programming language logic is not understand in browsers so that programming language is run by server like php server name is Apache.

- **Compiled and Interpreted:** Compilers take source code, such as C or Basic, and compile it into machine code. Interpreted languages differ from compiled languages; for example, interpreted code, such as shell code, is compiled on the fly each time the program is run. Bytecode, such as Java bytecode, is also interpreted code. Bytecode exists as an intermediary form that is converted from source code, but still must be converted into machine code before it can run on the CPU. Machine Learning are popular technologies that allow web applications to learn and observe from a user's preferences and habits. AI-enabled websites are on-trend everywhere. One reason is that AI uses genetic algorithms and neural networks to build artificial intelligence into web applications from scratch. And this is now easy to implement for most companies.

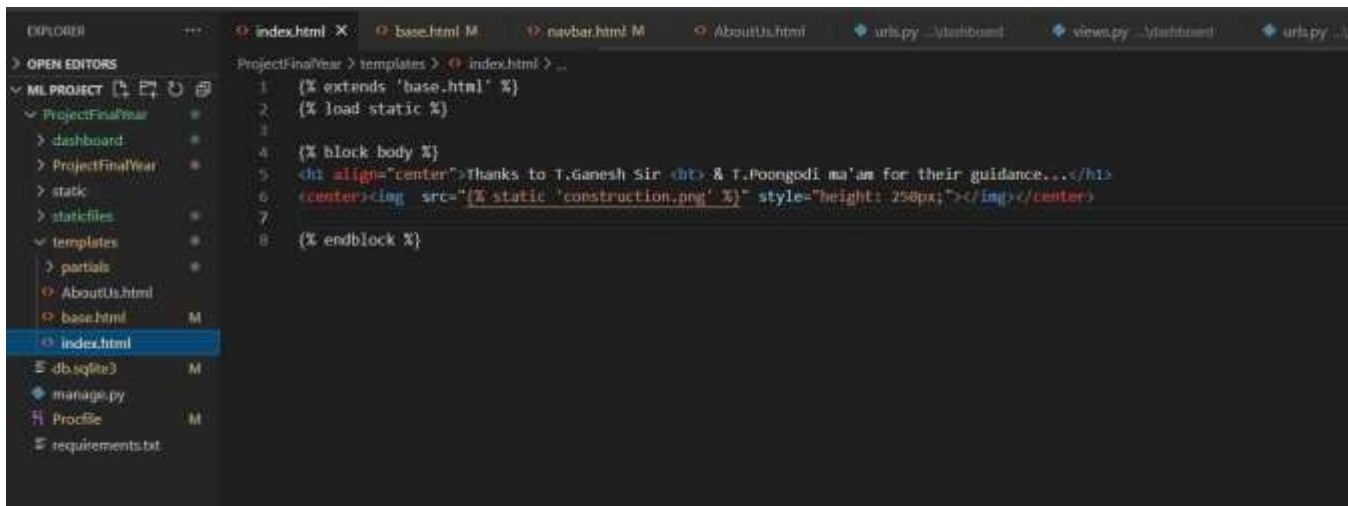
- **Object-Oriented:**

Python supports object-oriented language and concepts of classes and objects come into existence. It supports inheritance, polymorphism, and encapsulation, etc. The object-oriented procedure helps to programmer to write reusable code and develop applications in less code.

- **Robust and Secure:** The application is fully robust as all the code is written within try and catch statements so to avoid unnecessary crashing of the application by unwanted inputs.
- **Distributed:** The application is totally modularized into various modules like accounts, model , database etc. This helps achieving easy accessibility of the code and to make changes or making advancements in the code.
- **Simple, Small and Familiar:** The application is overall simple and easy to use. The application is far away from complexities.

Project Design

Home Page



```
ProjectFinalYear > templates > index.html > ...
1  {% extends 'base.html' %}
2  {% load static %}
3
4  {% block body %}
5  <div align="center">Thanks to T.Ganesh Sir <br> & T.Poongodi ma'am for their guidance...</div>
6  <center></img></center>
7
8  {% endblock %}
```


Responsive Footer



```
ProjectName > templates > partials > footer.html > footer_new_footer_area.bg_color > div.footer.bottom > div.container > div.row.align-items-center > div.col-lg-6.col-sm-5.text-right > p > a
217 <div class="row">
218   <div class="col-lg-3 col-md-6">
219     <div class="f_widget company_widget wow fadeInLeft" data-wow-delay="0.2s" style="visibility: visible; animation-delay: 0.2s; animation-name: fadeInLeft">
220       <h3 class="f_title f_600 f_color f_size_18">Get in Touch/h3>
221       <p>Don't miss any updates of our new templates and extensions!</p>
222       <form action="" class="f_subscribe_two matching" method="post" novalidate="true" _lpcchecked="1">
223         <input type="text" name="EMAIL" class="form-control email" placeholder="Email">
224         <button class="btn btn_get btn_get_two" type="submit">Subscribe/<button>
225         <input class="checkbox" type="checkbox" style="display: none;">
226         <input class="checkbox" type="checkbox" style="display: none;">
227       </form>
228     </div>
229   </div>
230   <div class="col-lg-3 col-md-6">
231     <div class="f_widget about_widget pl_70 wow fadeInLeft" data-wow-delay="0.4s" style="visibility: visible; animation-delay: 0.4s; animation-name: fadeInLeft">
232       <h3 class="f_title f_600 f_color f_size_18">Download/h3>
233       <ul class="list-unstyled f_list">
234         <li><a href="#">Company/</a></li>
235         <li><a href="#">Android App/</a></li>
236         <li><a href="#">iOS App/</a></li>
237         <li><a href="#">Desktop/</a></li>
238         <li><a href="#">Projects/</a></li>
239         <li><a href="#">My tasks/</a></li>
240       </ul>
241     </div>
242   </div>
243   <div class="col-lg-3 col-md-6">
244     <div class="f_widget about_widget pl_70 wow fadeInLeft" data-wow-delay="0.6s" style="visibility: visible; animation-delay: 0.6s; animation-name: fadeInLeft">
245       <h3 class="f_title f_600 f_color f_size_18">Help/h3>
246       <ul class="list-unstyled f_list">
247         <li><a href="#">FAQ/</a></li>
248         <li><a href="#">Term &am...</a></li>
249         <li><a href="#">Reporting/</a></li>
250         <li><a href="#">Documentation/</a></li>
251         <li><a href="#">Support Policy/</a></li>
252         <li><a href="#">Privacy/</a></li>
253       </ul>
254     </div>
255   </div>
256   <div class="col-sm-4">
257     <div class="f_widget team_solutions_widget wow fadeInLeft" data-wow-delay="0.8s" style="visibility: visible; animation-delay: 0.8s; animation-name: fadeInLeft">
258       <h3 class="f_title f_600 f_color f_size_18">Team Solutions/h3>
259       <ul class="list-unstyled f_list">
260         <li><a href="#">Gmail/</a></li>
261         <li><a href="#">Facebook/</a></li>
262         <li><a href="#">Twitter/</a></li>
263         <li><a href="#">LinkedIn/</a></li>
264       </ul>
265     </div>
266   </div>
267 </div>
268 </div>
269 <div class="row">
270   <div class="col">
271     <img alt="Illustration of a city skyline with palm trees, a person on a bicycle, and a lightbulb." data-bbox="130 260 830 370"/>
272   </div>
273   <div class="col">
274     <p>© Sage Cyber 2021 All rights reserved.</p>
275   </div>
276   <div class="col">
277     <p>Sage Cyber</p>
278   </div>
279 </div>
280 </div>
```


About the Application Page:

Machine Learning Web Application



The purpose of this Project is to propose the design and architecture of a testable, scalable, and efficient web-based application that models and implements machine learning algorithm. There are various components that form the architecture of our web-based application including server, database, programming language, web framework, and front-end design. There are also other factors associated with our application such as testability, scalability, performance, and design pattern. Our main focus in this Project is to solve a real world problem using advance technology like data science machine learning which in statistical terms is defined as an application of artificial intelligence where available information is used through algorithms to process or assist the processing of statistical data. While Machine Learning involves concepts of automation, it requires human-guidance. Machine Learning involves a high level of generalisation in order to get a system that performs well on yet unseen data instances.

Created By -

Sagar Gulati

Maneesh Kumar

9675914717 , 7417472355

```
ProjectPath > templates > AboutUs.html > style
1  {% extends 'base.html' %}
2  {% load static %}
3
4  {% block body %}
5  <style>
6  </style>
7  <!--script type="text/javascript" src="javascript.js"></script -->
8
9
10 <div style="border: 2px solid black;">
11
12
13 <div align="center">
14 <h1 style="color: red;">Machine Learning Web Application</h1>
15
16 </img>
17 </div>
18
19 <p align="center">
20
21
22 The purpose of this Project is to propose the design and architecture of a testable, scalable, and efficient web-based application that models
23 There are also other factors associated with our application such as testability, scalability, performance, and design pattern. Our main focus
24
25 </p>
26 </div>
27 <div style="margin-left: 10px;">
28 <b>Created By - </b><br><br>
29 <mark>Sagar Gulati </mark><br><br>
30 <mark>Maneesh Kumar </mark> <br><br>
31 <p style="margin-bottom: 4px;"><mark>9675914717 , 7417472355</mark> </p><br>
32 </div>
```

The input form

Prediction DB

Iris Prediction

Sepal Length

Sepal Width

Petal Length

Petal Width

```
Y:\Django-ht-App-1\htApp-main > predict > windows > ...
1 from django.shortcuts import render
2 from django.http import JsonResponse
3 import pandas as pd
4 from .models import PredResults
5
6
7 def predict(request):
8     return render(request, 'predict.html')
9
10 def predict_chances(request):
11
12     if request.POST.get('action') == 'post':
13
14         # Receive data from client
15         sepal_length = float(request.POST.get('sepal_length'))
16         sepal_width = float(request.POST.get('sepal_width'))
17         petal_length = float(request.POST.get('petal_length'))
18         petal_width = float(request.POST.get('petal_width'))
19
20         # Unpickle model
21         model = pd.read_pickle(r"C:\Users\Azander\Downloads\new_model.pkl")
22         # Make prediction
23         result = model.predict([[sepal_length, sepal_width, petal_length, petal_width]])
24
25         classification = result[0]
26
27         PredResults.objects.create(sepal_length=sepal_length, sepal_width=sepal_width, petal_length=petal_length,
28                                   petal_width=petal_width, classification=classification)
29
30     return JsonResponse({'result': classification, 'sepal_length': sepal_length,
31                        'sepal_width': sepal_width, 'petal_length': petal_length, 'petal_width': petal_width},
32                        safe=False)
```

Database Display:

Prediction 00

Prediction Results

#	Sepal length	Sepal width	Petal length	Petal width	Prediction
11	1.1	2.0	2.0	4.0	Iris-virginica
12	1.1	2.0	3.0	4.0	Iris-virginica
13	1.0	2.0	3.0	4.0	Iris-virginica
14	1.1	2.0	2.0	4.0	Iris-virginica
15	1.1	2.0	3.0	4.0	Iris-virginica
16	1.0	2.0	3.0	4.0	Iris-virginica
17	1.1	2.0	3.0	4.0	Iris-virginica
18	1.1	2.0	3.0	4.0	Iris-virginica
19	2.0	2.0	2.0	2.0	Iris-virginica
20	1.1	2.0	3.0	4.0	Iris-virginica
21	1.3	4.1	14	2.3	Iris-virginica

```
[E extends "base.html" E]
[E block with E]
<!-- Modal -->
<div class="modal fade" id="exampleModal" tabindex="-1" role="dialog" aria-labelledby="exampleModalLabel" aria-hidden="true">
  <div class="modal-dialog" role="document">
    <div class="modal-content">
      <div class="modal-header">
        <div class="modal-title" id="exampleModalLabel">Prediction Results</div>
        <button type="button" class="close" data-dismiss="modal" aria-label="Close">
          <span aria-hidden="true">&times;</span>
        </button>
      </div>
      <div class="modal-body">
        <div class="prediction-inputs">
          <div>Sepal length: <span id="sl"></span></div>
          <div>Sepal width: <span id="sw"></span></div>
          <div>Petal length: <span id="pl"></span></div>
          <div>Petal width: <span id="pw"></span></div>
          <div class="pt"><span id="prediction_classification"></span>
        </div>
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-secondary" data-dismiss="modal">Close</button>
        <button type="button" class="btn btn-primary" href="/results" role="button">View Results</button>
      </div>
    </div>
  </div>
</div>
<div class="container pt-5">
  <div class="row justify-content-md-center">
```

Registration Page:

[Login](#) [List](#) [Create](#)



Register Now!

Register Yourself !!

Full Name

Contact Number

Email address

Password

[Sign up](#)

[Already registered? Click to Login](#)

rayList (With E...

Create

localhost:4200 says

SignUp Successfull

OK

Register Now!

Register Yourself !!

Full Name

Admin

Contact Number

9876543210

Email address

admin@12345

Password

Sign up

Already registered? [Click to Login](#)

```

<div class="container">
  <div class="row">
    <div class="col-md-6">
      <div class="card">
        <div class="text-center">
          

          <h4>Register Yourself !!</h4>
        </div>
        <form>
          <form [formGroup]="signupForm" (ngSubmit)="signUp()">
            <div class="mb-3">
              <label for="exampleInputPassword1" class="form-label">Full Name</label>
              <input formControlName="fullname" type="text" class="form-control"
id="exampleInputPassword1">
            </div>
            <br>

            <div class="mb-3">
              <label for="exampleInputPassword1" class="form-label">Contact Number</label>
              <input formControlName="contact" type="number" class="form-control"
id="exampleInputPassword1">
            </div>
            <br>

            <div class="mb-3">
              <label for="exampleInputEmail1" class="form-label">Email address</label>
              <input formControlName="email" type="email" class="form-control"
id="exampleInputEmail1"
              aria-describedby="emailHelp">
              <!-- <div id="emailHelp" class="form-text">We'll never share your email with anyone
else.</div> -->
            </div>
            <br>

            <div class="mb-3">
              <label for="exampleInputPassword1" class="form-label">Password</label>
              <input formControlName="password" type="password" class="form-control"
id="exampleInputPassword1">
            </div>
            <br>
            <button type="submit" class="btn btn-primary">Sign up</button>
          </form>
        </form>
      </div>
    </div>
  </div>
</div>

```

```
    <a style="color: rgb(201, 172, 172)" routerLink="/login">Already registered? Click to Login</a>
  </div>
</div>
</div>
</div>
```

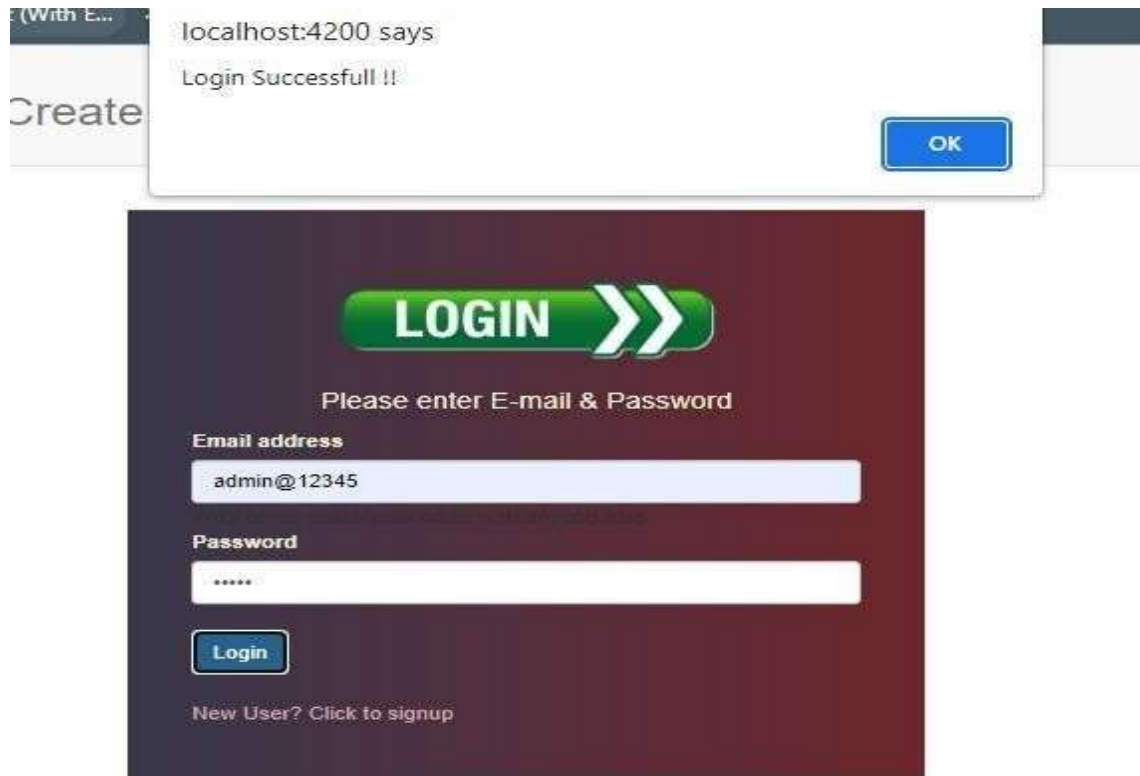
```
import { HttpClient } from '@angular/common/http';
import { Component, OnInit } from '@angular/core';
import { FormGroup, FormBuilder } from '@angular/forms';
import { Router } from '@angular/router';

@Component({
  selector: 'app-signup',
  templateUrl: './signup.component.html',
  styleUrls: ['./signup.component.css']
})
export class SignupComponent implements OnInit {

  public signupForm!: FormGroup;
  constructor(private formBuilder: FormBuilder, private http : HttpClient, private router: Router) { }

  ngOnInit(): void {
    this.signupForm = this.formBuilder.group({
      fullname: [],
      email: [],
      password: [],
      contact: []
    })
  }
  signUp(){
    this.http.post<any>('http://localhost:3000/signupUsers',this.signupForm.value)
    .subscribe(res=>{
      alert("SignUp Successfull");
      this.signupForm.reset();
      this.router.navigate(['login']);
    },err=>{
      alert("Something went wrong")
    })
  }
}
```

Login Page:



```
<div class="container">
  <div class="row">
    <div class="col-md-6">
      <div class="card">
        <div class="text-center">
          

          <h4>Please enter E-mail & Password</h4>
        </div>

        <form [formGroup]="loginForm" (ngSubmit)="login()">
          <div class="mb-3">
            <label for="exampleInputEmail1" class="form-label">Email address</label>
```



```

        <input formControlName="email" type="email" class="form-control"
id="exampleInputEmail1" aria-describedby="emailHelp">
        <div id="emailHelp" class="form-text">We'll never share your email with anyone else.</div>
    </div>
    <div class="mb-3">
        <label for="exampleInputPassword1" class="form-label">Password</label>
        <input formControlName="password" type="password" class="form-control"
id="exampleInputPassword1">
    </div>
    <br>
    <button type="submit" class="btn btn-primary">Login</button>
</form>
<br>
<a style="color: rgb(201, 172, 172)" routerLink="/signup">New User? Click to signup</a>
</div>
</div>
</div>

```

```

import { HttpClient } from '@angular/common/http';
import { Component, OnInit } from '@angular/core';
import { FormBuilder, FormGroup } from '@angular/forms';
import { Router } from '@angular/router';

@Component({
  selector: 'app-login',
  templateUrl: './login.component.html',
  styleUrls: ['./login.component.css']
})
export class LoginComponent implements OnInit {
  public loginForm!: FormGroup
  constructor(private formBuilder: FormBuilder, private http: HttpClient, private router: Router) { }

  ngOnInit(): void {
    this.loginForm = this.formBuilder.group({
      email: [''],
      password: ['']
    })
  }
  login(){
    this.http.get<any>("http://localhost:3000/signupUsers")

```

```
.subscribe(res=>{
  const user = res.find((a:any)=>{
    return a.email === this.loginForm.value.email && a.password === this.loginForm.value.password
  });
  if(user){
    alert("Login Successfull !!");

    localStorage.setItem('token',"qwertyuioplkjhgfdsazxcvbnm,./:~]123456789*");
    this.loginForm.reset();
    this.router.navigate(['list'])
  }else{
    alert("User not found !!");
  }
},err=>{
  alert("Something went wrong !!");
})
}
```

CHAPTER-5

Conclusion and Future Scope

Conclusion

Machine Learning can be a Supervised or Unsupervised. If you have lesser amount of data and clearly labelled data for training, opt for Supervised Learning. Unsupervised Learning would generally give better performance and results for large data sets. If you have a huge data set easily available, go for deep learning techniques. You also have learned Reinforcement Learning and Deep Reinforcement Learning. You now know what Neural Networks are, their applications and limitations.

Finally, when it comes to the development of machine learning models of your own, you looked at the choices of various development languages, IDEs and Platforms. Next thing that you need to do is start learning and practicing each machine learning technique. The subject is vast, it means that there is width, but if you consider the depth, each topic can be learned in a few hours. Each topic is independent of each other. You need to take into consideration one topic at a time, learn it, practice it and implement the algorithm/s in it using a language choice of yours. This is the best way to start studying Machine Learning. Practicing one topic at a time, very soon you would acquire the width that is eventually required of a Machine Learning expert.

Future Scope

The scope of Machine Learning is not limited to the investment sector. Rather, it is expanding across all fields such as banking and finance, information technology, media & entertainment, gaming, and the automotive industry. As the Machine Learning scope is very high, there are some areas where researchers are working toward revolutionizing the world for the future. Let us discuss them in detail.

Automotive Industry

The automotive industry is one of the areas where Machine Learning is excelling by changing the definition of 'safe' driving. There are a few major companies such as Google, Tesla, Mercedes Benz, Nissan, etc. that have invested hugely in Machine Learning to come up with novel innovations. However, Tesla's self-driving car is the best in the industry. These self-driving cars are built using Machine Learning, IoT sensors, high-definition cameras, voice recognition systems, etc.

Robotics

Robotics is one of the fields that always gain the interest of researchers as well as the common. In 1954, George Devol invented the first robot that was programmable and it was named **Unimate**. After that, in the 21st century, Hanson Robotics created the first AI-robot, **Sophia**. These inventions were possible with the help of Machine Learning and Artificial Intelligence.

Quantum Computing

We are still at an infant state in the field of Machine Learning. There are a lot of advancements to achieve in this field. One of them that will take Machine Learning to the next level is Quantum Computing. It is a type of computing that uses the mechanical phenomena of quantum such as entanglement and superposition. By using the quantum phenomenon of superposition, we can create systems (quantum systems) that can exhibit multiple states at the same time. On the

other hand, entanglement is the phenomenon where two different states can be referenced to each other. It helps in describing the correlation between the properties of a quantum system.

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Application of MACHINE LEARNING In Django

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Abstract

The aim of this project is to propose a web-based design and design that is usable, flexible, and intelligent that simulates and uses a machine learning algorithm. There are many different components that make up the structure of our web-based application that includes server, website, programming language, web framework, and advanced design.

There are also other determinants of our application such as testing, adaptability, functionality, and design pattern. What impresses us most about this project is the discovery of a real-world problem using moving technology such as data-learning technology that in mathematical terms is defined as the use of artificial intelligence where available information is used by algorithms to process or console mathematical data processing. While Machine Learning includes the concept of automation, it requires human counseling.

Keywords: Django, Machine Learning, Multi-threading, Real-Time- Application, Task Queue.

I. INTRODUCTION

Web application credit to a software system that affords a user interface through a web browser. Examples of web applications contain blogs, online shopping, search engines, etc.

Now a Days Web application smash a urgent roled from ordering food from a

restaurant, ordering any electronic items or anything in web applications, watch movies, book movie theater, tutorials, download drawings online, and much more. Web applications can be built for a variety of uses and can be used by anyone; from suspension to solid reasons. Commonly used Web applications can include web-mail, online calculators, or e-commerce stores. Few Web applications can only be protected by a different browser; however, many are available without worrying about the browser.

Every Service now with days has requests. If we want to order food but do not want to talk to the elite, we just go to web apps or mobile apps and ordered food and it is a very convenient and easy process.

II. ABOUT MACHINE LEARNING

Machine learning is a practical intelligence class that sends software programs to have strict rules on test results without being programmed to do so. Machine learning algorithms use historical data as input to visualize new output values. Verification engines are a common way to use a reading machine. Other popular uses include fraud detection, spitting detection, malware threat strike, business process automation (BPA) and dispute retention.



Fig. 1 Eye Image Acquisition

the development of new products. Most of today's top companies, such as Facebook, Google and Uber, make machine learning a big part of their movement. machine learning that a computer does not look at data and naming patterns, and then uses that judgment to complete its task at the end. Any work that waits over a set of data points or rules can be done by using a machine to read, even those heavy loads such as answering customer service calls and reviewing CVs.

Depending on the region, machine learning algorithms work with almost human mediation / support. Four great machine learning models are supervised reading, supervised reading, supervised reading and supportive reading.

With supervised reading, the computer is a support with a data label set that makes it easier This is a slightly more complex model, as it attempts to duplicate human reading.



With unsupervised reading, the computer is backed up with explicit data and old unknown body patterns or data from it.

III. LITERATURE REVIEW

Machine learning algorithms are described as learning a target function (f) that best maps **input variables (X) to an output variable (Y)**. This is a general learning task where we would like to make predictions in the future (Y) given new examples of input variables

(X) to the eye.

IV Algorithms in Machine Learning

There are three types of Machine Learning. The second type is unregulated reading where the data is not labeled for machine reading.

itself finds patterns in data and creates an algorithm. The third stage is reinforcement learning where the model interacts with nature in a way that earns higher rewards.

The following are the following electronic learning algorithms:

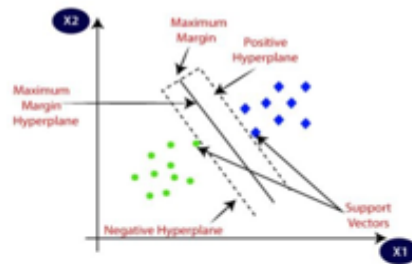
1. Line Decline
2. Logistic Regression
3. Decision Tree
4. Support Vector Equipment
5. Naïve Bayes Classification
6. K nearby neighbors Support Vector Machines

Vector support equipment has recently been developed in the field of mathematics and mathematical concepts. It is one of the most widely used surveillance systems for both surveillance and deceleration. However, it is often used for segregation purposes. It is used for problems such as classification of plants by their categories based on their characteristics

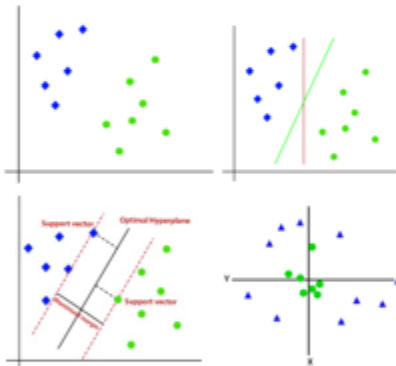
of petals and sepals like sepal length and width and petal length and width.

This algorithm mainly creates a best line which is the actual decision boundary. This boundary is used for classification. This algorithm takes two extreme points from the data provided and those two points are known as support vectors and hence this algorithm is named to be support vector machines. These support vectors create an imaginary plane known as hyperplane.

This section explains, a database of data is collected which may be a list of report titles, comments, news, posts. data is to get the best data or information for its model and that means delete names stop. Different types of platforms are here where we can find online news which are search engines, social media platforms via twitter, Facebook, WhatsApp and news channels. Many databases are voluntary for the separation of false online news and these databases are used in various papers. We have briefly explained the origin of the data used for this project in these sections. Although verifying the accuracy of news reports is a daunting task, many well-known annotations carefully analyze the terms and conditions, reports, and contexts from trusted sources. Apart from this, there is no acknowledgment of the specificity of the system problem of finding false news. Before using a dataset in a training program, it should be clear that the data used is before



his section explains, collecting a database of potentially a list of report titles, comments, news, news, posts. data is to get the best data or information for its model and that means remove the word stop. Different types of forums are here where we can find online news which are search engines, social media platforms via twitter, Facebook, WhatsApp and news channels. Many databases are voluntary in distinguishing online false stories and these websites are used in various papers. We have briefly explained the origin of the data used for this project in these sections. Although verifying the accuracy of reports is a difficult task, many well-known annotations carefully analyze the terms and conditions, reports, and conditions from reliable sources. Apart from this, there is no acknowledgment of the specificity of the system problem detection of false news. Before using a database in a training program, it should be clear that the data used is pre-existing



Future Scope

Python: Python is a popular programming language used in the industry for 25-30 years. Since its inception, it has also developed a wide variety of crops.

Django: On the other hand, Django is a solid open source platform released by the Prime Minister of 2005. Factors such as modesty, honesty and restraint have significantly contributed to its growth over the years.

Django has a large number of generators divided into other web development languages, addiction management tools, various libraries, and API platform.

Django has an integrated CSS framework. Django is a modern Python-based tool used in Web applications.

The Django framework usually resides under elements.

Template: Completes what the user sees in the browser. Create and format information for reference.

View: Includes all files. These elements attract information to the authorities and present the information of the gate using templates.

VI. CONCLUSION

How The basis for considering the basis according to the main user and the main purpose of the application application or the object linked is a question raised by the diversity of applications and their different levels of threat. The test matrix is created, crossing, on the one hand, the type of users and on the other hand, the "objectives of use". With the false news detection model, we test efficiency; a variety of tested metrics are discarded. At this rate, we analyze frequently used metrics for false stories. [14] The problem of false news is growing and as a result many leading strategies can predict whether false stories or real stories: True Positive (TP): When tested for fake information.

blocks are completely labeled as faux information; True Negative (TN): When tested real information blocks are entirely labeled as accurate information; False Negative (FN): When tested accurate information blocks are completely categorized as wrong information; False Positive (FP): When tested wrong information blocks are totally categorized as accurate information.

[4] I. Goodfellow, D. Warde-Farley, P. Lamblin, V. Dumoulin, M. Mirza, R. Pascanu, J. Bergstra, F. Bastien, and Y. Bengio, Pylearn2: a machine learning research library. *arXiv preprint 1308.4214*, 2013.

shut down and some new business firms will emerge playing with this technology. Hence, the power of information technology and the machines must be strictly taken into consideration and continuous improvements and developments should be made.

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