PsychePath

Mental health issues can be dealt with, so just talk it out.

Guided By :
Ms. Akanksha Kochhar

MAHARAJA AGRASEN INSTITUTE OF TECHNOLOGY
MAIT
उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः

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Research Paper

Machine Learning Model to Analyze Mental Health

Authors:

Aditya Mehta (delhi.adityamehta@gmail.com)
Lakshay Chawla (lakshaychawla13@gmail.com)
Mehul Rekhi (rekhi.mehul2000@gmail.com)
Ms. Akanksha Kochhar (akankshakochhar@mait.ac.in)

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Problem Statement

Mental health is a serious topic which is mostly being ignored, specially in our society.

Concerns related Mental Health are considered to be taboo in India
People who feel traumatized and are afraid to talk to anyone feel helpless and have no one to guide them in such critical condition.

Diving deep into the topic and reading some of the research papers, our crafted theory got ground and it was established for sure that people are traumatized and many a times they don’t even know.

Abstract

As we all know, mental health problems in India are not recognized well, so, we set our aim as to create a platform that will be accessible to all, and one does not have to face any criticism for expressing his/her feelings.
They can just go to this platform, fill in a couple of forms and get help from professionals.

Time for us to normalise mental health, break the stigma surrounding it and make therapy a little more accessible.

Introduction

Scope

The aim of this project is to address mass audience. In order to target masses, we decided on making this available on most basic tool everyone has – their mobile phone. One can just log on to our website using any ordinary smartphone on any browser. So, software/hardware requirements on user side are minimal.

Motivation

Origin of the idea came during lockdown period where we realized that people in India don't recognize mental health problems as real problems, and the people suffering often end up in a loophole.

Challenges

As this idea pertains to such a dynamic field, the dataset required for a working machine learning model has to be specific to each region.
Data relevant to our project is not readily available, hence we have to conduct a survey to obtain the data.

Technology Used

Front-End

HTML, CSS, JavaScript

Bootstrap is a framework that helps in creating responsive CSS that adjusts to phones, tablets, and desktops.

Back-End

DJango, Python, Postgresql

Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design.

Machine Learning

Python, SKLearn, Numpy, Pandas

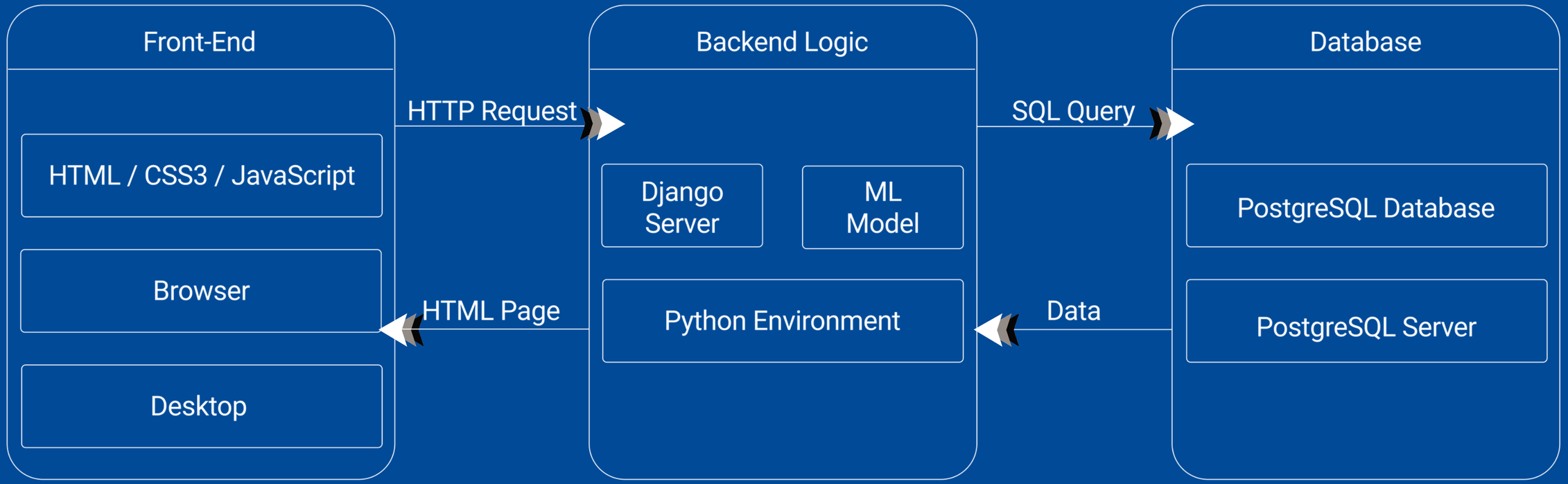
Machine Learning can be an incredibly beneficial tool to uncover hidden insights and predict future trends.

Deployment

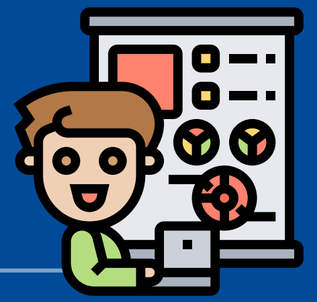
AWS (EC2)

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud.

Architecture



Machine Learning Results



Logistic Regression

Accuracy : 88.8%

Naïve Bayes

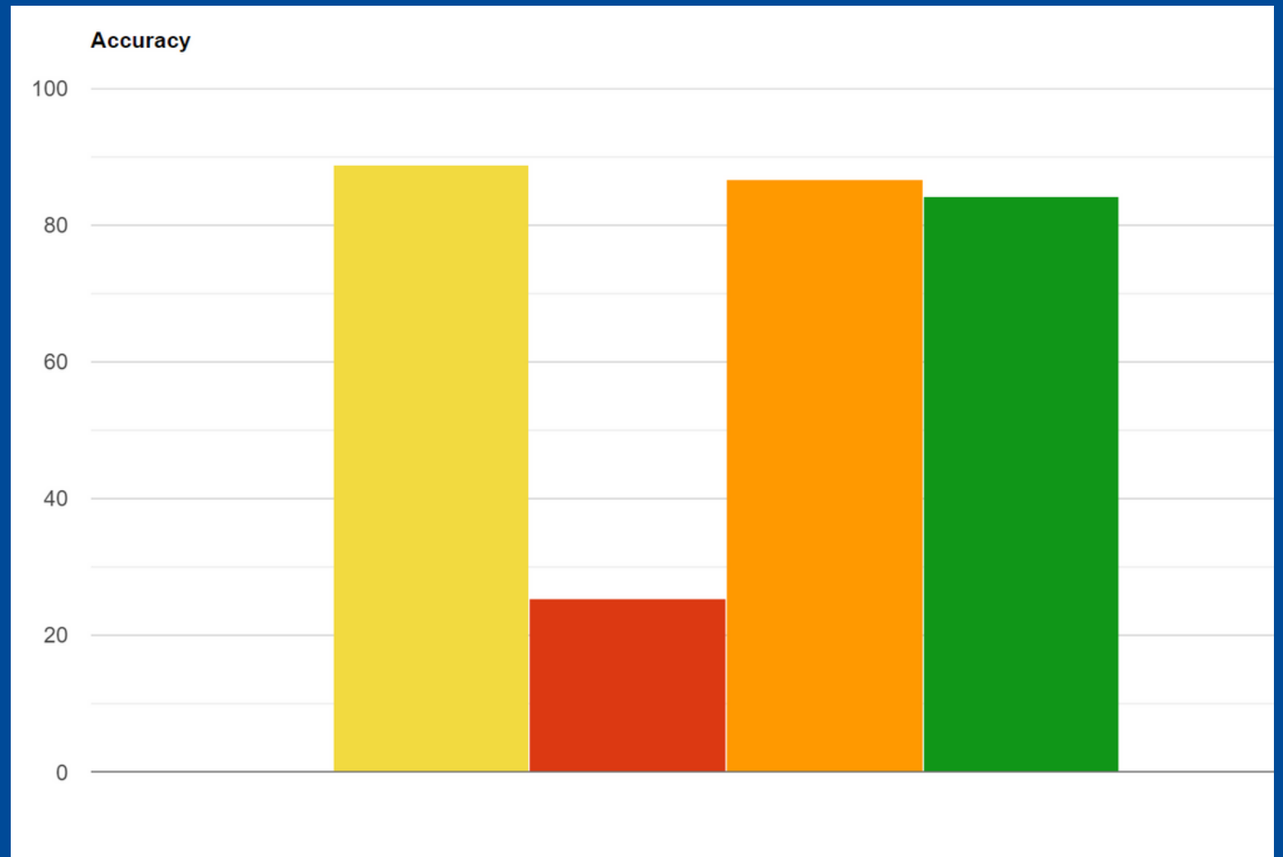
Accuracy : 25.3%

KNN

Accuracy : 86.8%

Decision Trees

Accuracy : 84.3%



Evaluation Metrics for Model Selection

Accuracy

It is defined as the score that is generated while generalizing the class. How accurately the model is able to generalize.

Recall

It signifies how much the model has predicted true data points as true data points.

False Positives

It signifies the cases where class was negative but the model predicted them as positive.

Our website is live @ psychepath.xyz

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Our Team

Mehul Rekhi
35814802718

Aditya Mehta
35114802718

Lakshay Chawla
40814802718

Thank You