Project Name : PREDICTING LIFE EXPECTANCY USING MACHINE LEARNING

Project Manager: Siddhant Vakhariya DATE: 26/05/2020

PROJECT SCOPE DOCUMENT

Project Summary :

A typical Regression **Machine Learning** project leverages historical data to predict insights into the future. The idea is to develop a Web Application that will predict **Life Expectancy Rate** of a Country given various features.

Life Expectancy is a statistical measure of the average time a human being is expected to live. Life Expectancy depends on various factors: Regional Variations, Economic Circumstances, Sex Differences, Mental Illness, Physical Illness, Education, Year of their birth and other demographic factors. This problem statement provides a way to predict the average life expectancy of people living in a country when various factors such as year, GDP, education, alcohol intake of people in the country, expenditure on healthcare system and some specific disease related deaths that happened in the country are given.

Assumptions :

- There is no other illness present other than mentioned in the Project. If anyone is suffering from any other disease then this project will not give results in accordance with other diseases but give results only for those illnesses present in the project.
- This Project will show results according to the dataset. It can show some wrong statistics in some extreme conditions.

Project Requirements :

- Life Expectancy dataset
- The web-app must take inputs/factors influencing the life expectancy and predict the average life expectancy of people in the country.

Functional Requirements :

Prediction of a Number signifying the Average Life Expectancy of a country depending on factors: Year, Status, Adult Mortality, Infant Deaths, Alcohol, Percentage Expenditure, Hepatitis B, Measles, BMI, Under-five deaths, Polio, Total Expenditure, Diphtheria, HIV/AIDS, GDP, Population, Thinness 1-19 years, Thinness 5-9 years, Income Composition of Resources, Schooling.

Technical Requirements :

- Python libraries particularly Numpy ,Pandas, etc.
- Matplotlib and Seaborn for visualisation
- Scikit-Learn and Statsmodels for regression analysis.
- Creating Notebook in IBM Watson
- Importing data to Watson
- Building ML Models with Python
- Output to be predicted within fractions of second.
- Creating End-points for Node-RED Integration
- Output given by the model must be valid.
- The web-app must be available and efficient**.**

Software Requirements :

- IDLE (Python 3.8)
- Jupyter Notebook
- IBM Cloud Services
- IBM Watson Studio
- Node-RED

Project Deliverables :

- Creation of IBM, Github and Slack Accounts
- Creation of document which Explain the Project
- Activation of IBM Watson
- Collection of Life Expectancy Data set
- Build a Machine Learning Linear Regression Model/Use Auto-AI for its creation
- Integrate the model with Node-RED
- We will be able to manage health-care system in advance

Project Team:

SIDDHANT ANIL VAKHARIYA

Project Schedule :

- START DATE : 19-MAY-2020
- END DATE : 18-JUNE-2020