**DOCUMENTATION**

Project Summary

A typical Regression Machine Learning project leverages historical data to predict insights into the future. This problem statement is aimed at predicting 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 Illnesses, Physical Illnesses, Education, Year of their birth and other demographic factors. This problem statement provides a way to predict 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.

Project Requirements

The following are needed to successfully develop this project:

1.The dataset comprising of the countries and factors influencing the life expectency there.

2.A regression based machine learning model coded in python.

3.A Git Hub account.

4.An IBM Cloud account.

5.A Jupyter Notebook in IBM Watson Studio to develop the Python codes in.

6.A Node-RED flow applicaton to integrate the model.

Functional Requirements

The following are the functional requirements of this project:

1.A supervised Machine learning model based on Regression written in Python to process the dataset for the desired output.

2.An IBM Cloud Service.

3.An IBM Watson Studio service to create an ML Model and automate it.

Software Requirements

The following are the software requirements of this project

1.Jupyter Notebook for developing python codes in

2.Git Tool

3.IBM cloud account

4.IBM Watson Studio service

5.Node-RED flow application

Project Deliverables

A machine learning model that will be able to predict the life expectancy of a country given an input data comprising of various factors influencing it.

Project Team

This is an individual project developed by Manimalathi

Project Schedule

Tasks Duration

1.Setup the Development Environment 1 Day

2.Create IBM Cloud Account 0.5Day

3.Create a Node-RED starter application 1 Day

4.Explore IBM usecases and IBM Watson Machine Learning 3 Days

5.Build an ML model in IBM Watson Studio 2 Days

6.Automate the ML Model 1 Day

7.Collect dataset for the project 0.5 Day

8.Create the IBM Cloud service 1 Day

9.Create a Watson Studio project 1 Day

10.Configure Watsonstudio and create Machine Learning service 1 Day

11.Create A Jupyter Notebook in IBM Watson And import data 0.5 Day

12.Build A Machine Learning Model and Create Endpoints for 2 Days

Node-RED Integration

13.Build Node-RED Flow to Integrate ML Services 2 Days

14.Create AutoAI experiment 1 Day

15.Build Node-RED Flow to Integrate AutoAI 1 Day