Project Scope Document

Project Summary:

Life expectancy can be stated as a statistical measure of average time a human being is expected to live. This measure depends upon various features such as Regional variations, Economic Circumstances, Sex Differences, Mental Illnesses, Physical Illnesses, Education, Year of their birth and other demographic factors.

Project Requirements:

This project is helpful as well as useful in order to predict a life expectancy of a region depending upon relatable demographic factors.This can be used by various hospitals and governing dept in order to get report of life expectancy so as to realize what is the predicted result based on the regional factors.

This project requires a good understanding of machine learning and its algorithms in my case linear regression and it also requires a good understanding of various python libraries such as pandas,numpy,scikit-learn,scipy and also matplotlib and seaborn for visualization purpose.

In order to publish the model we need to use node-red and also watson studio from ibm cloud.

Functional Requirements:

Programming Language:Python 3.7

Notebook: Jupyter notebook and Watson Studio

Machine Learning libraries: pandas,numpy,scikit-learn and scipy

Visualization libraries: seaborn,matplotlib

Algorithm:Linear Regression(Partition Trainingset=60% and testing set=40%)

Node-Red to display the flow of project and for UI.

Technical Requirements:

Technical requirements include various steps

Step 1: Installing and loading all necessary python packages

Step 2:Importing the Life-Expectancy csv file

Step 3:Perform certain visualization and determine the usable features

Step 4:Perform preprocessing of data

Step 5: Apply suitable algorithm in order to get a satisfactory prediction of Life-Expectancy.

Software Requirements:

IBM cloud

Windows 7 and above

Jupyter Notebook

IBM Watson Studio

Node-red service in IBM

Github

Slack

Python 3.7

Project Deliverables:

Decided parameters for best prediction.

Selected linear regression algo for predicting the output.

RMSe method for error calculation

Project Member:

Dheeraj Poojary

https://github.com/SmartPracticeschool/llSPS-INT-2039-Predicting-Life-Expectancy-using-Machine-Learning