PROJECT SCOPE DOCUMENT

PROJECT SUMMARY

The project uses the concept of Machine Learning Regression to predict the average lifespan for a person based on various parameters from a survey – based dataset. The project can be tweaked and manipulated to fit the current scenario and with small changes in the parameter values, it can learn and provide sufficiently accurate values for the life expectancy of the person.

PROJECT REQUIREMENTS

The project in question is required to predict accurately the life expectancy of a person based on various parameters. Some of these parameters include: -

Age Gender Place of Origin Health ConditionsAll these parameters are unique for all people and the said model will refer to a survey – based data frame or dataset for training purposes and then this model when trained should be able to predict the life expectancy of the said person with certain error rate.

FUNCTIONAL REQUIREMENTS

The project is required to be in an executable program file format. When executed initially, the code will be compiled and executed which will train the regression model and then test it on the testing half of the dataset. It is then required to give an option to the user to input the parameters and then based on the training, predict the life expectancy of the person in question with a certain error rate.

TECHNICAL REQUIREMENTS

The technical requirements that are going to be used in this project include: -

Basic programming skills and knowledge of Python 2 or Python 3Basic understanding of programming constructs in PythonInformation about the functions and libraries of Python like: -Pandas NumpyMatplotlibSklearnArray manipulation constructs in PythonBasic Simulation and UI development knowledgeBasic Understanding of Node Red Software**SOFTWARE REQUIREMENTS**

The software requirements for the successful completion of the project are: -

Jupyter Notebook – To write the code filesIBM Cloud – For hosting the application and the code filesIBM Watson Studio – For interpreting and executing the code filesNode

Red – To create an interactive UI and integrating with the codeGit Repository – To store the files for reviews and editsZovo Writer – To store and edit the documentation relating to the project

PROJECT DELIVERABLES

The deliverables of the project include the life expectancy of the person whose various input parameters have been provided to the Regression Machine Learning Model. The final outcome of the model is to create an Interactive User Interface for the user to get the expected output.

PROJECT TEAM

This project is a single person project and the person responsible for the successful completion of the project is SARVESH SHASHIDHAR.

PROJECT SCHEDULE

The tentative schedule of the project is given as shown: -

EVENTS AND TASKS	DEADLINES
Project Scope, Schedule, Team & Deliverables	11 – 07 – 2020
Setup the Development Environment	12 – 07 – 2020
Create an IBM Account	13 – 07 – 2020
Create a Node – RED starter Application	14 – 07 – 2020
Explore IBM Watson Use cases	15 – 07 – 2020
Explore IBM Watson Machine Learning	17 – 07 – 2020
Build the ML model in IBM studio	20 – 07 – 2020
Automate your ML model	21 – 07 – 2020
Collecting the Dataset for the Project	22 – 07 – 2020
Create the necessary IBM Cloud Services	23 – 07 – 2020
Create a Watson Studio Project	24 – 07 – 2020
Configure Watson Studio	25 – 07 – 2020
Create Machine Learning Service	26 – 07 – 2020
Create a Jupyter Notebook in IBM Watson and Import Data	27 – 07 – 2020
Build a ML model and create endpoints for Node RED integration	29 – 07 – 2020
Build a Node RED flow to integrate ML services	31 – 07 – 2020

The project is expected to finish in August.