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| **PROJECT ID** | **PROJECT NAME** | **STARTING DATE** |
| SPS\_PRO\_215 | Predicting Life Expectancy using Machine Learning | 19/05/2020 |
| **PROJECT MANAGER** | **PROJECT OBJECTIVES** | |
| PRABHAT | Objective of problem statement is aimed at predicting **Life Expectancy rate** of a country given various features. | |

**PROJECT SCOPE DOCUMENT**

## 1. 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.

**2. Project Requirements**

♢ Download the dataset of WHO

♢ Analyze it and clean the dataset

♢ Create IBM account

♢ Create the appropriate cloud and node red services

♢ Train the regression model on different algoritms

♢ Check for the best one and finalize that algorithm to train our model

♢ Build Node red flow for GUI(web app)

♢ Create scoring end point for integrating our model to node red

**2.1 Functional Requirements:**

♢ Provide the model with the inputs fields

♢ The model will return the output as the average predicted lifespan

**2.2 Technical Requirements:**

♢ The GUI must be integrated with the backend trained model.

♢ The model before training must be given with clean dataset.

**2.3 Software Requirements:**

♢ Python IDE

♢ Excel

♢ IBM Cloud Account

♢ IBM Watson

♢ Node Red

**Hardware Requirements:**

Processor : i3 7th gen or higher

Speed : 2 Ghz or more

Hard Disk space : 10 GB or more

**3. Project Flow and Schedule**

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| **TASK NO.** | **TASK NAME** | **DESCRIPTION** | **Task Schedule** |
| 1 | Project Planning and Kickoff | Project Scope, Schedule and setup the development environment | Week 1 |
| 2 | Explore IBM Cloud Platform | Create IBM Cloud Account and A Node-RED Starter Application | Week 1 |
| 3 | Explore IBM Watson Services | Exploring IBM Watson Suitcases and IBM Watson Machine Learning | Week 2 |
| 4 | Introduction to Watson Studio | Build your own ML model in IBM Watson Studio | Week 2 |
| 5 | Predicting life expectancy using Python | Collect the dataset project and create IBM cloud service and Watson Studio Project and Create A Jupyter Notebook In IBM Watson And Import DataBuild A Machine Learning Model And Create Endpoints For Node-RED IntegrationBuild Node-RED Flow To Integrate ML Services | Week 3,4 |

**PROJECT TEAM : INDIVIDUAL**

**Dataset Reference** : https://www.kaggle.com/kumarajarshi/life-expectancy-who