**PROJECT SCOPE DOCUMENT**

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Topic: **Predicting Life Expectancy using Machine Learning.**

**PROJECT SUMMARY:**

Life expectancy is an estimate of how long a person would live, on average.Life expectancy is affected by many factors such as: employment, income, education and economic wellbeing, the quality of the health system and the ability of people to access it, health behaviors such as tobacco and excessive alcohol consumption, poor nutrition and lack of exercise,adequate sanitation, etc. It’s no secret, though, that life expectancy varies widely across the globe.Through this given project, I have got a chance to test this assumption and understand what actually best predicts life expectancy.

**BASIC IDEA**

My idea to implement this project is to use a dataset containing data based on different countries.

My idea includes training the dataset on regression algorithms likeMultiple Linear Regression,Polynomial Regrssion,Logistic Regression, etc. as the given problem statement is a typical Regression Machine Learning project.

**Steps to be involved:-**

* **data collection (**to import proper dataset**)**
* **feature selection -(**to select those features that will contribute most in predicting the life expectancy and thus it will help in increasing the accuracy of prediction)
* **model selection**

**Tool that can be used:-**

* Python libraries particularly [Numpy](https://numpy.org/) ,[Pandas, etc.](https://pandas.pydata.org/docs/)
* [Matplotlib](https://matplotlib.org/) and [Seaborn](https://seaborn.pydata.org/) for visualisation
* [Scikit-Learn](https://scikit-learn.org/stable/index.html) and [Statsmodels](https://www.statsmodels.org/stable/index.html) for regression analysis.

**PROJECT REQUIREMENTS:**

**FUNCTIONAL REQUIREMENT:**

Predicting the life expectancy of people in a country

**SOFTWARE REQUIREMENTS**

Operating System: windows 7,windows xp,windows 8 and higher version. (My version is Windows 10).

**TECHNICAL REQUIREMENTS:**

Python, IBM Cloud, IBM Watson

**HARDWARE REQUIREMENTS:**

Hard disk space: 10 GB or higher is recommended

Speed:- 2GHz or more

Processor: i3 7th generation or higher

**Scope of use :**

It will be easier for a country to determine the predicting factor which is contributing to lower value of life expectancy. This will help in suggesting a country which area should be given importance in order to efficiently improve the life expectancy of its population.