predicting Life Expectancy Using Machine Learning

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project scope document:

1:About project :our objective is to find the average age of people in different countries based on some analyst facts.The project tries to create a model based on data provided by the World Health Organization (WHO) to evaluate the life expectancy for different countries in years. The data offers a timeframe from 2000 to 2015. The data originates from here: https://www.kaggle.com/kumarajarshi/life-expectancy-who/data The output algorithms have been used to test if they can maintain their accuracy in predicting the life expectancy for data they haven't been trained. Four algorithms have been used:Linear Regression

Ridge Regression

Lasso Regression

ElasticNet Regression

Linear Regression with Polynomic features

Decision Tree Regression

Random Forest Regression

2:Project Goals: My approach is to find Time-left-to-live calculation based on two followinf studies.

(i) Life Expectancy at birth(years):in this we can calculate the average number of years that a newborn could expect to live, if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory, or geographic area.

(ii) **Life expectancy at age 60 (years):** The average number of years that a person of 60 years old could expect to live, if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her 60 years, for a specific year, in a given country, territory, or geographic area.

Simple Linear Regression and Predicting Life Expectancy:A linear regression model attempts to explain the relationship between two or more variables using a straight line.

This is a surprisingly easy model to build using solid data curated by top statisticians. Two top sources are the World Health Organization (WHO) and the Central Intelligence Agency (CIA). Here we'll use the World Health Organization (WHO) Global Health Observatory Data.

Mortality Data We'll use the combined data sets of 'Life expectancy at birth (years)' and 'Life expectancy at age 60 (years)'. This is going to give us two points for our linear regression from which we can easily extract any other age. Again,

take this with a big grain of salt! These are only averages and life expectancy keeps improving everyday! From the WHO site:

With the help of A linear regression model attempts to explain the relationship between two or more variables using a straight line. using the y = mx+c line equation, will give us everything we need to estimate life-expectancy for any age.

3: Project Requirements:

For this we write our code on jupyter notebbok.we include some packages like NymPy, Pandas, Matplotlib, Scipy.these are the sites from where we can take datasets for our project.https://www.kaggle.com/kumarajarshi/life-expectancy-who.

3.1 Functional Requirements:

predicting the life expectancy years of people in different country.

3.2 Technical Requirements:

Python,jupyter notebook,IBM Cloud,IBM Watson.

3.3 Hardware Requirements:

Processor:i3 7th gen or higher
Speed:20GHZ or more
Hard disk space:10GB or more
Ram memory:4 GB or more

3.4 Software Requirements:

Operating system: Windows xp or Higher
Browser:Google Chrome,Mozila firefox,e.t.c
Jupyter notebook**.**
Spyder,Anaconda Navigator

4:Project Deliverable:

- Project documentation
- create ML prediction Model
- Bulid a linear Regression Model

5: Project Team:

Project Manager-Aradhana Gupta(individual work)s