

A project on Machine learning.

LIFE EXPECTANCY PREDICTION

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INTRODUCTION

1.1 Overview

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 originates from here: <https://www.kaggle.com>

1.2 Purpose

To predict life expectancy of various countries. Get the knowledge of life in various countries and take a measure in developing the range of life span in their countries.

The development of all categories which affects life span is done by this prediction. By this all countries get to know their countries life span in average.

By this they get to know

Why the life span is like this?

What makes to increase the life span?

By this the people life span get increased and get a chance to survive more days than the one in past.

LITERATURE SURVEY

2.1 Existing problem

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>

2.2 Proposed solution

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.

The algorithms have been used:

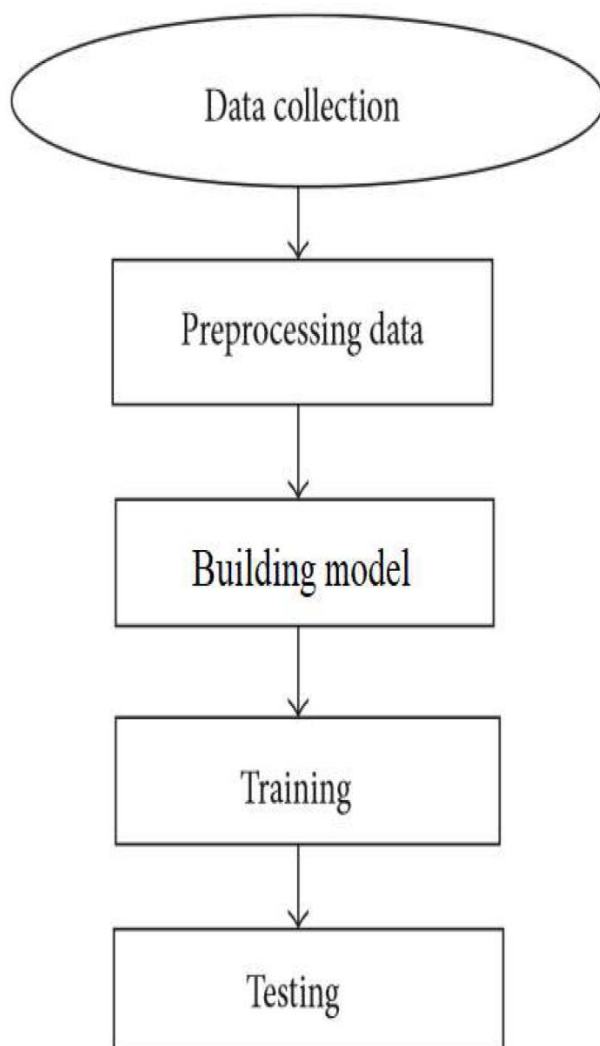
Linear Regression

Decision Tree Regression

Random Forest Regression

THEORITICAL ANALYSIS

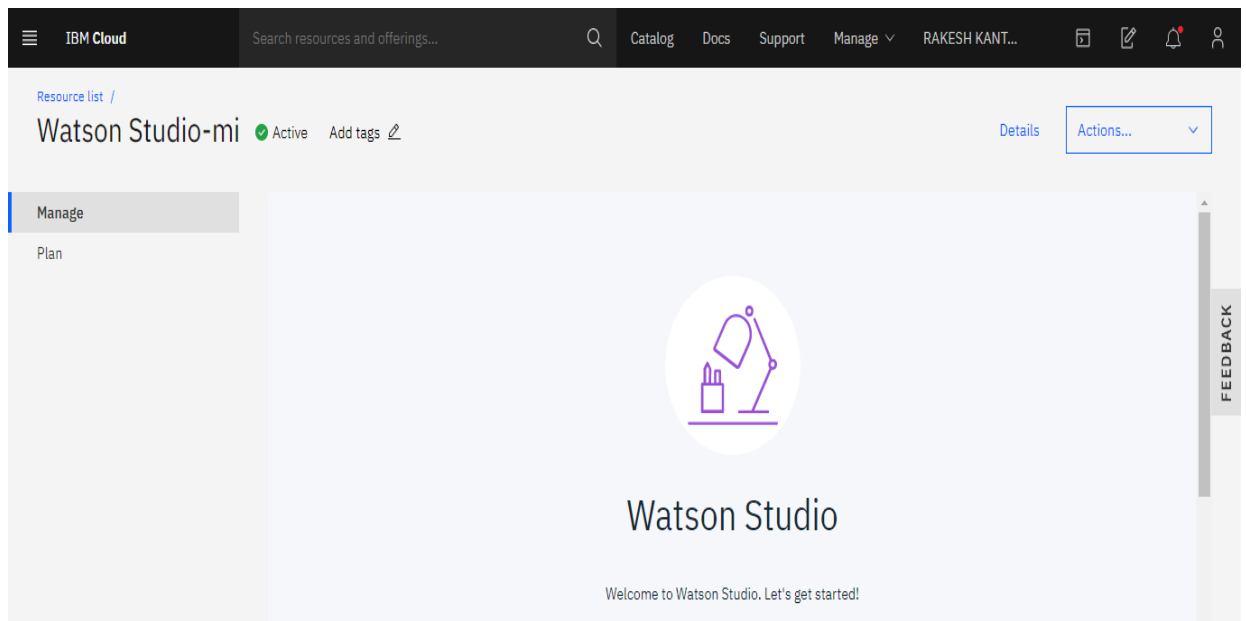
3.1 Block diagram



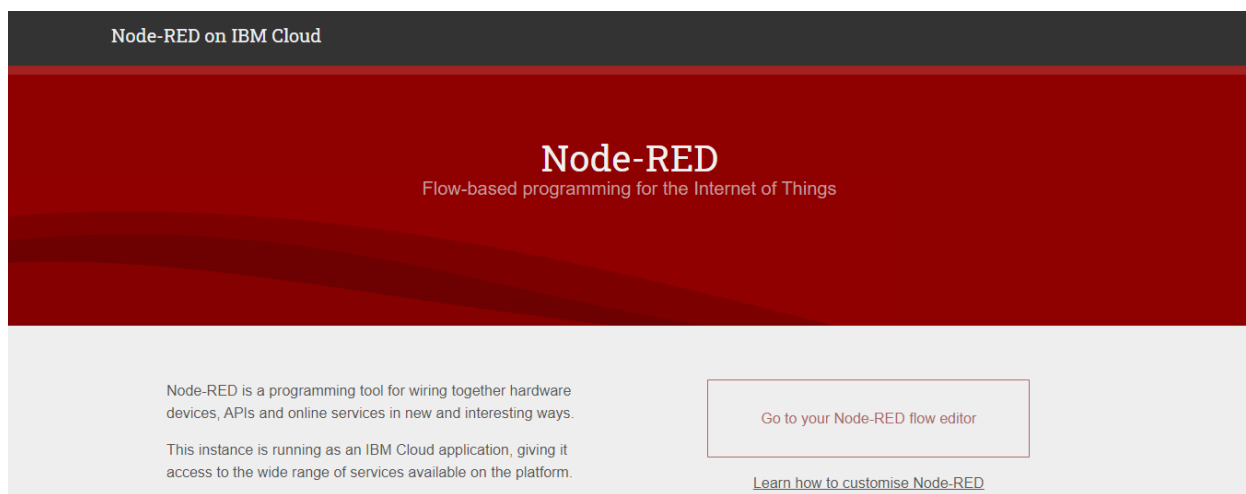
3.2 Software designing

Using the following services of IBM:

- **Watson studio**

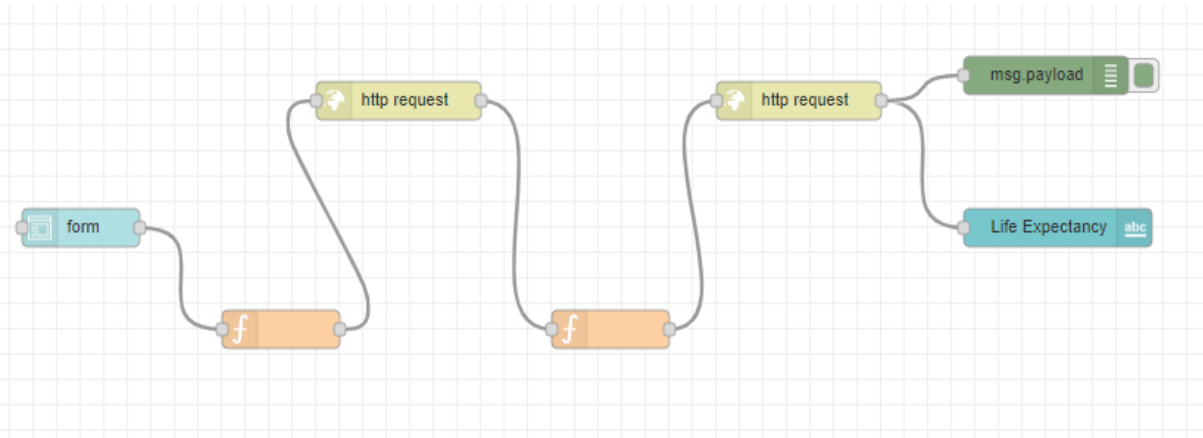


- **Node-red flow**



EXPERIMENTAL INVESTIGATIONS

FLOWCHART



RESULT

Life Expectancy

Life Expectancy **64.85999999999999**

Country *	Afghanistan
Year *	2015
Status *	Developing
Adult Mortality *	263
infant deaths *	62
Alcohol *	0.01
percentage expenditure *	71.27962
Hepatitis B *	65
Measles *	1154

BMI *

19.1

under-five death *

83

Polio *

6

Total expenditure *

8.16

Diphtheria *

65

HIV/AIDS *

0.1

GDP *

584.2592

Population *

33736494

thinness 1-19 years *

17.2

thinness 5-9 years *

17.3

Income composition of resources *

0.479

Schooling *

10.1

SUBMIT

CANCEL

ADVANTAGES & DISADVANTAGES

- The development of all categories which affects life span is done by this prediction.
- By this all countries get to know their countries life span in average.

APPLICATIONS

In predicting the life span of a person living in particular country gives:

- Information to the new person entering to the country

CONCLUSION

After comparing all the algorithms we can conclude the Lasso and the Elastic Net Regression offer which are the same:

- Best Parameters: {'alpha': 0, 'max_iter': 10}
- R square on the test data of 92%
- MAE of 1.83
- MSE of 6.05

FUTURE SCOPE

Used in various factors for the welfare of country.

Such as medical, population ministry, etc...

In all ways for developing the country the strength for country was the efficient population. So, by this the peoples life span increases and GDP also increases.

We can fix the following measures:

- Producing the products basing on it
- Jobs vacancy calculation
- Government schemes

BIBLIOGRAPHY

The following sources have been used:

- <https://www.kaggle.com/kumarajarshi/life-expectancy-who/data>
- Introduction to Machine Learning with Python by Andreas C. Müller & Sarah Guido
- Labs of the course
- stack overflow
- Lectures of the course
- <https://www.coursera.org/learn/machine-learning>
- IBM videos

APPENDIX

The screenshot shows the Coursera interface for the 'Machine Learning' course. At the top, the Coursera logo is on the left, followed by an 'Explore' button and a search bar containing the text 'What do you want to learn?'. On the right, there are links for 'For Enterprise', 'Log In', and a 'Join for Free' button. The main content area has a dark red background. It features a breadcrumb trail: 'Browse > Data Science > Machine Learning'. The course title 'Machine Learning' is prominently displayed, with 'Offered By Stanford' to its right. Below the title, there is a star rating of 4.9 from 138,012 ratings and 34,735 reviews, along with a 'Share' button. A profile picture of Andrew Ng is shown with the text 'Andrew Ng TOP INSTRUCTOR'. A white box contains the text 'Enroll for Free Starts Jun 22' and 'Financial aid available'. At the bottom, it states '3,271,952 already enrolled'.

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
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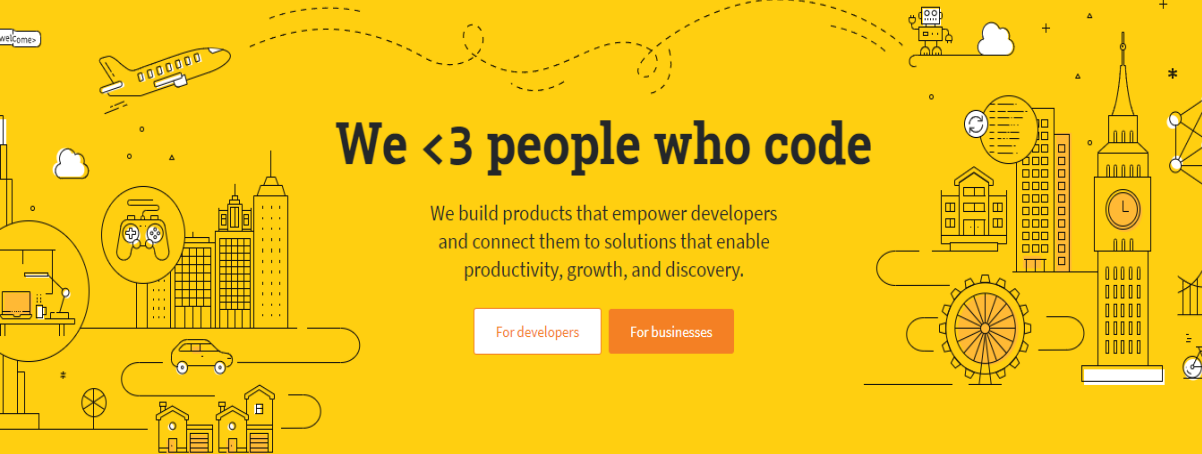
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