

PROJECT STATMENT:

Predicting Life Expectancy using Machine Learning

Project Summary :

DESCRIPTION: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.

Objective:To determine which indicators are statistically significant, and to predict life expectancy, I ran a few different models with various combinations of features. This application is a perfect use case for regression, which determines the relationship between one dependent variable (life expectancy) and a number of independent variables (development indicators).

Outputs: Predicting Life Expectancy using Machine Learning (Getting details from the user and Predicting Life Span of Citizen of a country.)

Project Requirements: This project requires,

1. we need a cloud account to use some features in our project.
2. We need a cloud platform to deploy the project.

User Requirements:

3. User must have a compatible web browser to access this service.

Functional Requirement : Some of the basic requirements are listed below.

Provide the model with the inputs fields

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

Technical Requirements :

The technology we will be using here is **Machine Learning**. ML is playing a crucial role in current industry. ML is being used everywhere in current trends. In the current project we are going to use IBM WATSON STUDIO , IBM CLOUD features . Also we need **python programming** at some areas to complete this project.

Software Requirements :

1. We'll be using few softwares, even cloud platforms to deploy the project. We are using

IBM cloud for deploying the project and creating necessary cloud services.

2. We are using IBM watson .
3. We are using NODE-RED app feature from ibm cloud services
4. Python 2 or 3
5. IBM Watson Studio.
6. Any Web / Mobile app frameworks if we wanted to connect through our own web page.
7. Dataset to train our ML model

Project Deliverables :

Project Title: Predicting Life Expectancy using Machine Learning

Project Id:SPS_PRO_215

Project duration : 30 days

Project Manager: RAJAT VERMA

S.No	Title	Deliverable	Description	Status				
1.	PROJECT PLANNING AND KICKOFF	1. project scope, team, schedule & deliverables 2. Setup the development environment	<table><tr><td>1.</td><td>To prepare project scope documents with following headings 1.project summary 2.project Requirements 3.Functional Requirements 4.Technical Requirements 5.Software Requirements 6.Project Deliverables 7.Project team 8.Project Schedule</td></tr><tr><td>2.</td><td>To create GitHub, Slack account. And working with Document writer</td></tr></table>	1.	To prepare project scope documents with following headings 1.project summary 2.project Requirements 3.Functional Requirements 4.Technical Requirements 5.Software Requirements 6.Project Deliverables 7.Project team 8.Project Schedule	2.	To create GitHub, Slack account. And working with Document writer	completed
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2.	<u>EXPLORE</u> <u>IBM</u> <u>CLOUD</u> <u>PLATFOR</u> <u>M</u>	1.Create IBM cloud account 2. Create A Node-RED starter Application	<table><tr><td>1.</td><td>1.Sign-Up for IBM Acedamic initiative Account 2.Sign-up for IBM Cloud 3.Getting started with IBM cloud</td></tr><tr><td>2.</td><td>start Node-RED ..Create Node-red Starter Application. create a simple webpage.</td></tr></table>	1.	1.Sign-Up for IBM Acedamic initiative Account 2.Sign-up for IBM Cloud 3.Getting started with IBM cloud	2.	start Node-RED ..Create Node-red Starter Application. create a simple webpage.	completed
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3.	EXPLORE IBM WATSON SERVICE S	1.Explore IBM Watson Usecases 2.Explore IBM Watson Machine Learning	<table><tr><td>1.</td><td>Explore Watson products and services and understand how it works</td></tr><tr><td>2.</td><td>learn Introduction to machine learning and IBM Watson machine learning</td></tr></table>	1.	Explore Watson products and services and understand how it works	2.	learn Introduction to machine learning and IBM Watson machine learning	completed
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4.	INTRODUCTION TO WATSON STUDIO	<p>1.Build your Own ML Model in IBM Watson Studio</p> <p>2.Automate your ML Model</p>	<p>Build your Own ML Model in IBM Watson Studio Using Machine Learning Services.</p> <p>learn about Auto AI.. Use it in your project.</p>	completed
5.	PREDICTING LIFE EXPECTANCY WITH PYTHON	<p>1.Collect the Dataset for the Project</p> <p>2.Create Necessary IBM Cloud Services</p> <p>3.Create a Watson Studio Projects</p> <p>4.Configure Watson Studio</p> <p>5. Create Machine Learning Service</p> <p>6.Create a Jupyter Notebook</p>	<p>Collect Dataset for Reference.</p> <p>Create The IBM Service.</p> <p>Create a watson studio Project.</p> <p>Import The Dataset into Jupeter Notebook.</p> <p>Create Endpoint Creation Reference</p>	completed

		<p>in IBM Watson And import Data</p> <p>7.Build A Machine Learning Model And Create Endpoints For Node-RED integration</p> <p>8.Buid Node-RED flow to Integrate ML services</p>		
6.	PREDICTING LIFE EXPECTANCY WITHOUT PYTHON	<p>1.Collect The Dataset For The Project.</p> <p>2.Create Necessary IBM cloud Services</p> <p>3.Create a IBM Studio Project</p> <p>4.Configure</p>	<p>Collect Dataset for Reference</p> <p>Create The IBM Service.</p> <p>Create a watson studio Project.</p> <p>Import Dataset And Create AUTO AI Experiment</p>	completed

		Watson Studio		
		5.Create Machine Learning Services		
		6. Import Dataset And Create AUTO AI Experiment		
		7.Build Node-RED Flow To Integrate AutoAI		

NOTE: Will modify the status column once the deliverables are verified by the mentors.

Project Team:

There's no team for this project. This project is done individually

Project Schedule:

This project is scheduled for 30 days. That means we need to build a web application with integration to all these services & deploy all the services on IBM Cloud Platform within 30 days of span.

NOTE: Will modify the status column once the deliverables are verified by the mentors.

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