Health Insurance Cost Prediction Using IBM Auto AI Service

Creating an application to predict the insurance premium cost with AutoAI

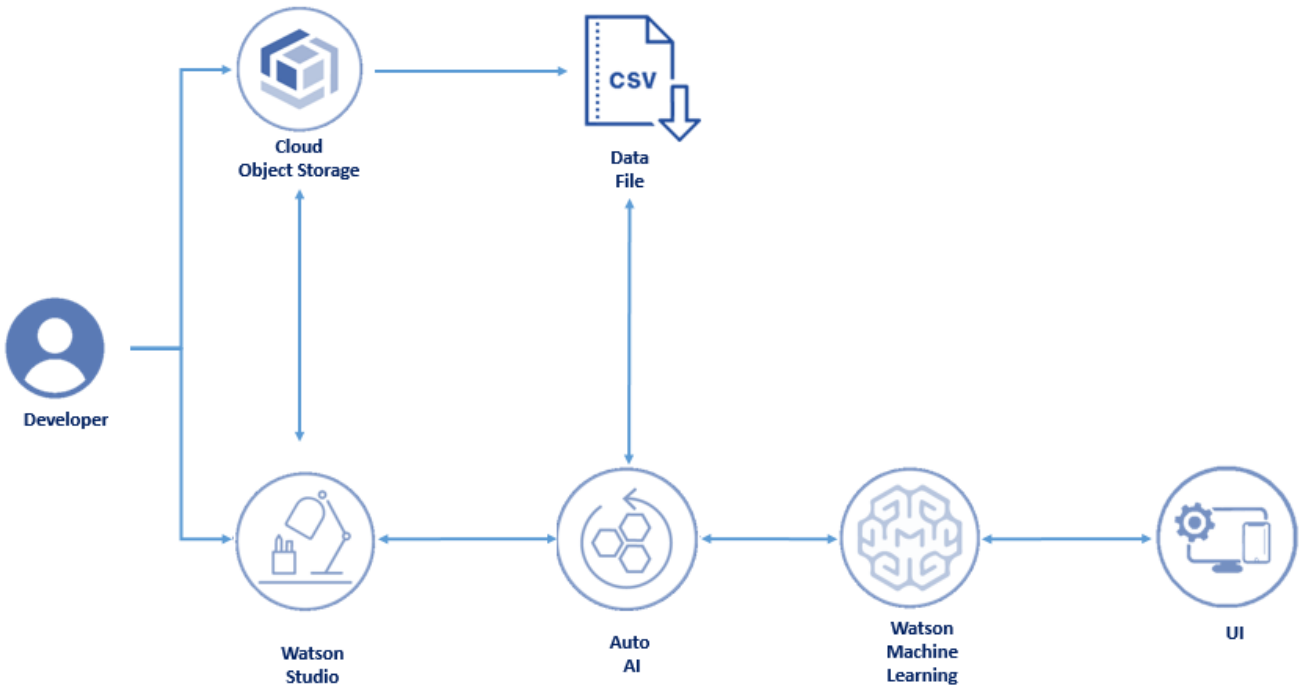
Description

Using IBM AutoAI, all the tasks involved in building predictive models for different requirements are automated. Here prediction of health insurance premium cost for an individual based on his age, sex, BMI, number-of-children, smoking preferences, region and charges is performed.

Services Used

1. IBM Watson Studio
2. IBM Watson Machine Learning
3. Node-RED
4. IBM Cloud Object Storage

Architecture



Dataset

The dataset for the project is considered from the following link
https://www.kaggle.com/noordeen/insurance-premium-prediction

Flow Description

1. IBM Watson Studio Service is created on IBM Cloud.
2. IBM Cloud Object Storage Service is created and added to Watson Studio.
3. Input data file is uploaded into Watson Studio.
4. An AutoAI Experiment is created to predict insurance premium on Watson Studio
5. AutoAI uses Watson Machine Learning to create different models
6. The best performing model is deployed
7. A web-application with Node-red is build using the deployed model for predicting the insurance charge.

Screenshots

Cost Predictor

Deployed Online

API reference | **Test**

Enter input data

45

sex

Female

bmi

22

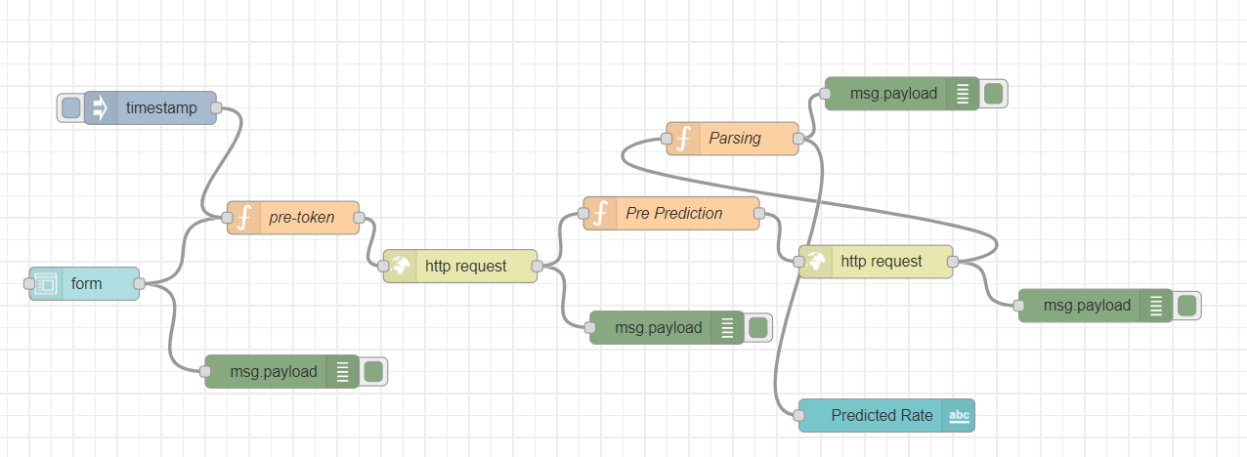
children

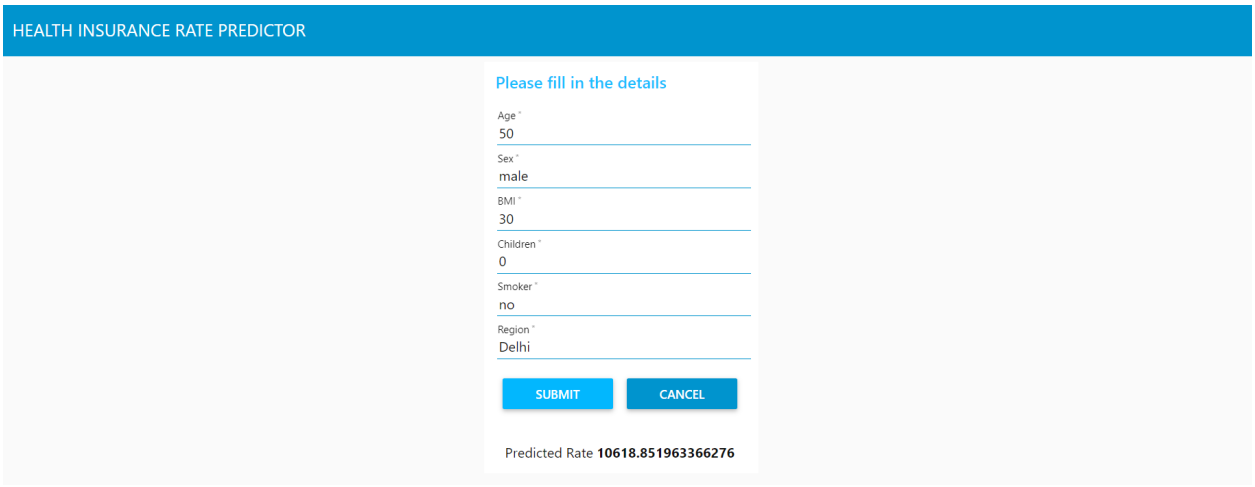
2

Predict

Result


```
{
    "predictions": [
        {
            "fields": [
                "prediction"
            ],
            "values": [
                [
                    9156.996497268063
                ]
            ]
        }
    ]
}
```


HEALTH INSURANCE RATE PREDICTOR
Please fill in the details
Age *
50
Sex *
male
BMI *
30
Children *
0
Smoker *
no
Region *
Delhi
SUBMIT
CANCEL
Predicted Rate 10618.851963366276