Telecom Customer Churn Prediction Using Watson Auto AI

RSIP Career Basic ML 086

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INTRODUCTION

Overview

- In this, " Telecom customer churn prediction using watson AI" we create a model that predicts the customer churns or not . It is achieved by ibm cloud.In this the best model is obtained.

- In this machine leraning algorithms used.

- By the help of node red we create a application in which model is deployed.Based on inputs data it predicts that customer churns or not.

Purpose

- As customer churn is a major concern for large companies.It effects the revenue of that companies especially in telecom field so company need to predict which customer churn
- Therefore the reasons of their churn help the companies to reduce that reasons so that company growth is increased.

LITERATURE SURVEY

Existing Problem

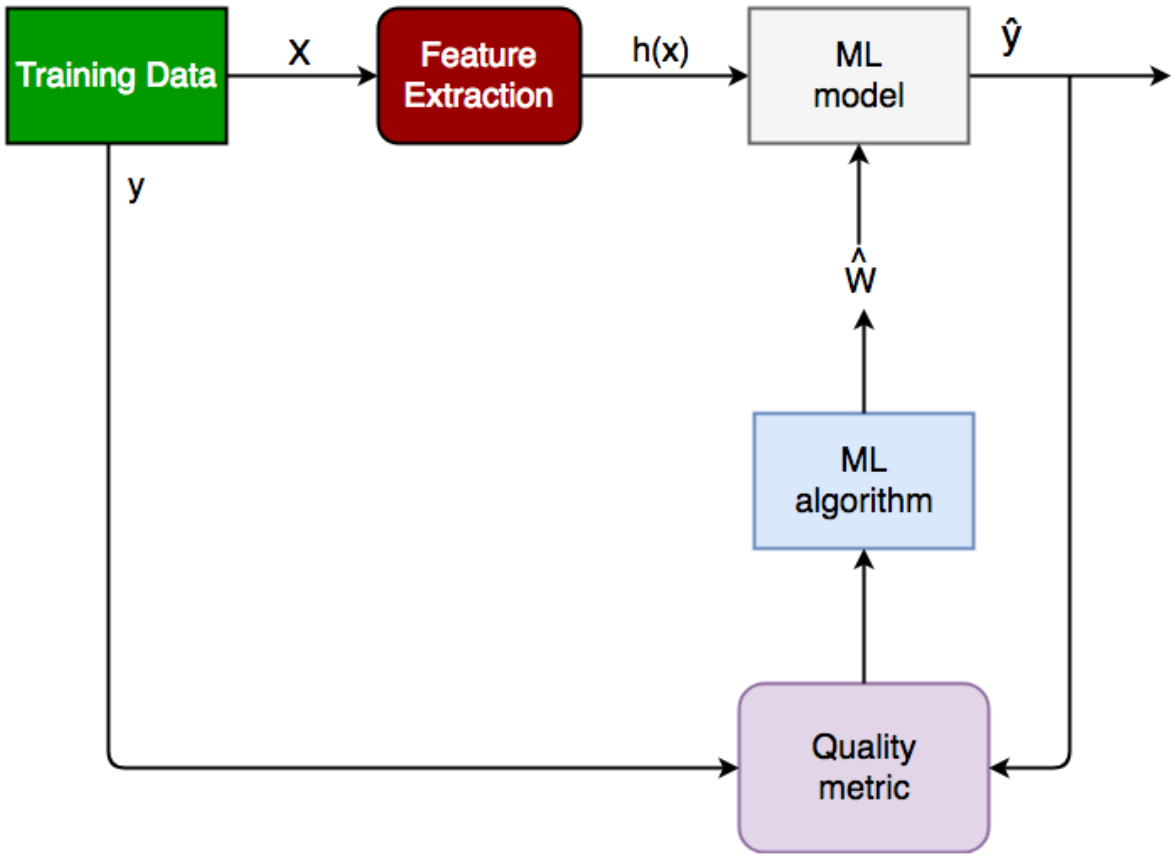
- Telecom Industry always suffer for high churn rates when the better plan comes than more people churned in that time there is more loss but when we predict before it incurs less loss.

Proposed Solution

- A Machine learning model using ibm watson Auto AI machine learning service.
- The model is deployed on ibm cloud to get scoring endpoint which is used as api for web building.
- A web apllication is developed using node red service.
- we use endpoint to give endpoints and predict output

Theoretical Analysis

Block Diagram



Hardware/Software designing

- Here a pc or other devices is required.
- The software used is ibm cloud.A machine learning service ,cloudant,ibm watson and node red is used.

Experimental Investigation

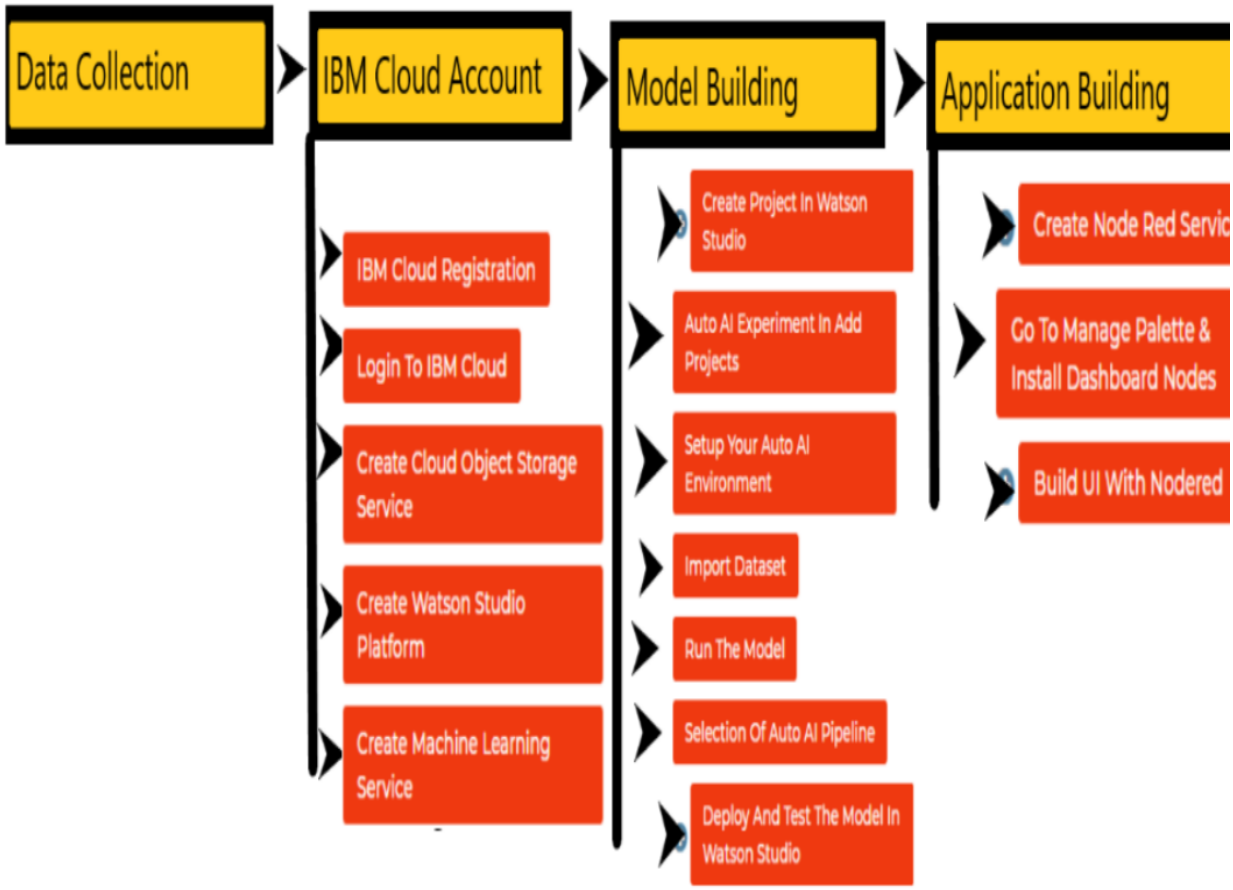
There are 6 steps in this for a general project

1. Choose an idea
2. Do research and collect data
3. Compose a hypothesis
4. Design model or Experiment
5. Analyse and draw conclusions.

In our project,

- First we take a telecom churn prediction and then collect data and arrange in a format and use ibm watson AutoAI
- Then predict what we need
- Draw output that is churned or not.

Flow chart


Data Collection
IBM Cloud Account
Model Building
Application Building
IBM Cloud Registration
Login To IBM Cloud
Create Cloud Object Storage Service
Create Watson Studio Platform
Create Machine Learning Service
Create Project In Watson Studio
Auto AI Experiment In Add Projects
Setup Your Auto AI Environment
Import Dataset
Run The Model
Selection Of Auto AI Pipeline
Deploy And Test The Model In Watson Studio
Create Node Red Servic
Go To Manage Palette & Install Dashboard Nodes
Build UI With Nodered

RESULT

- We create a model using watson auto ai
- Then using that model and node red we create web application.
- Here after deployment , when we give inputs in node red we get either the 0 or 1.
- 0 = Not Churned
- 1 = Churned

Default

churned(0=no,1=yes) **0**

RowNumber *
100

CustomerId *
200

Surname *
hilli

CreditScore *
500

Geography *
France

Gender *
Female

Age *
40

Tenure *
2

Balance *
200

NumOfProducts *
1

HasCrCard *
1

IsActiveMember *

Age *

40

Tenure *

2

Balance *

200

NumOfProducts *

1

HasCrCard *

1

IsActiveMember *

1

EstimatedSalary *

129999

SUBMIT CANCEL

ADVANTAGES AND DISADVANTAGES

The advantages are :

- Can be implemented easily
- No human intervention is needed.
- Handle complex data.
- Available 24/7

The Disadvantages are:

- Time and resources
- Data Acquisition
- Intrepretation of results
- High error susceptibility.

Application

- In this application company can know the people who churns and who does not.
- By using watson most of the work is automated.
- Node red service helps in giving inputs so that prediction is easy.

Conclusion

- Watson has most benefits which is very helpful in machine learning and other type of services.
- If analytics,prediction,computation is automated then people's work is reduced.

Future scope

- As we can see continuous growth in watson so that more accurate results will be available.
- This project can help different large companies in telecom so that revenue incrases and comes up with better plans.

Bibliography

- The services used are:
  1. IBM cloud
  2. Node Red Application
  3. Watson Auto AI
  4. Cloud Storage Service.

Appendix

Source Code

Other AI platforms:

- Google Ai platform
- Tensor Flow
- Azure by microsoft
- Rainbird
- Infosys Nia
- Wipro Holmes
- KAI
- Wit
- Lumiata
- Ayasdi
- Premonit