HIGH LEVEL DOCUMENT

Insurance Premium Prediction

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1. Introduction

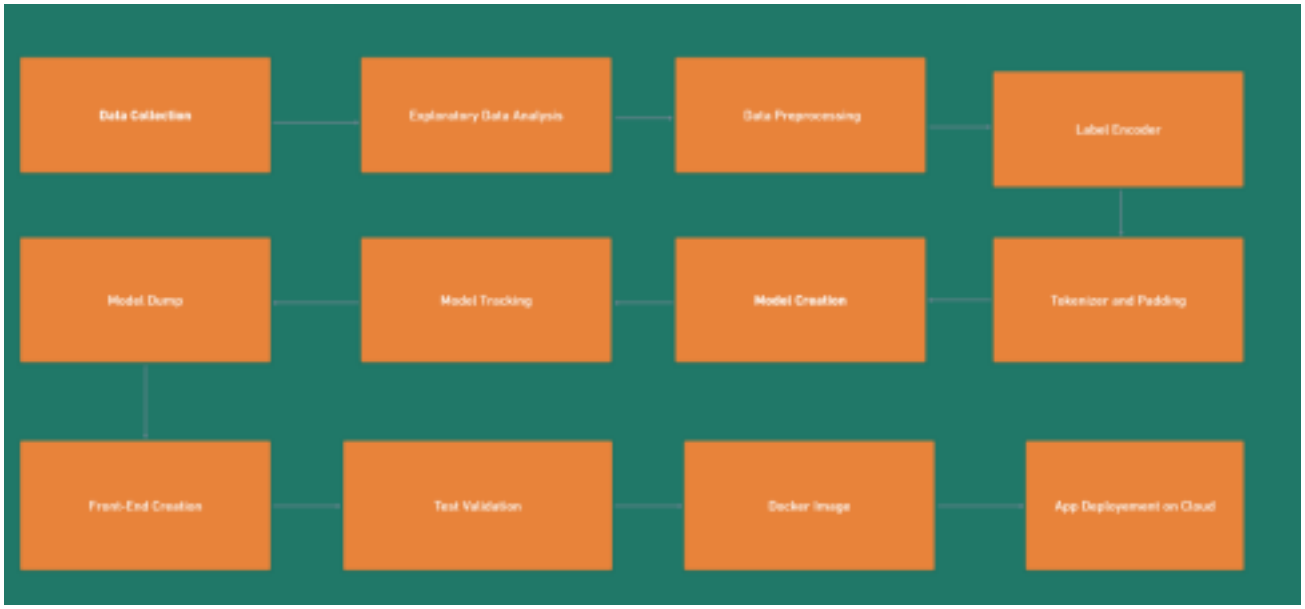
1. 1 What is a Low-Level Design Document?

The goal of LLD or a low-level design document(LLDD) is to give the internal logical design of the actual program code for the adult income prediction estimation system. LLD describes the class diagrams with the methods and relations between classes and program specs. It describes the modules so that the programmer can directly code the program from the document.

1.2 Scope

Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. This process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall the data organization may be defined during requirement analysis and then refined during data design work.

2. Architecture



3. Architecture Description

3.1 Data Collection

The dataset is downloaded from Kaggle. The dataset contains 3 columns and 30k+ rows. The dataset includes ArticleID, Text, Category in Train dataset and in the test dataset only ArticleID and Text. This is given in the comma separated value format(.csv).

3. 2 Exploratory Data Analysis

In EDA, we have seen various insights from the dataset like checking top 5 rows and bottom 5 rows. There are no null values in the dataset.

3. 3 Data Preprocessing

Our data is not After the raw text is preprocessed, we have to encode our labels to numerical encoding as they were categorically encoded before. For this we are using OneHotEncoder and LabelEncoder

3. 4 Model Creation.

In model training we used XGBRegressor

3.5 Model Dump

After comparing all accuracies and checking all regression metrics, The model is dumped used pickle format

3.6 Data From User

Here we will collect user's requirements to classify with news headline or with complete news

3.7 Model Call

Based on the User input, it will be thrown to the backend in the dictionary format.

3.8 Docker

Implemented docker in our project so that anyone can run our docker image which is uploaded as an open source on a docker hub. So it is useful for a developer to pull images from the docker and run on any platform.

3.9 Deployment

The model is deployed on Cloud

4. Unit Test Cases

Test Cases Description	Prerequisite Expected Result
Verify whether the Application URL is accessible to the user.	Application URL should be defined Application URL should be accessible to the user
Verify whether the Application loads completely for the user when the URL is accessed	Application URL is accessible Application is deployed The Application should load completely for the user when the URL is accessed
Verify whether the user is giving standard input.	Handled test cases at backends. Users should be able to see successfully valid results.
Verify whether user is able to see input fields	Application is accessible User should be able to see input fields

Verify whether user is able to edit all input fields	2.Application is accessible. User is logged in to the application	User should be able to edit all input fields
Verify whether gets predict or classify news into categories	1. Application is accessible. 2. User is logged in to the application	Users should get the Submit button to submit the inputs.

Verify whether the user is presented with recommended results on clicking submit. Verify whether the recommended results are in accordance to the selections user made	1.Application is accessible. 2.User is logged in to the application 1.Application is accessible. 2.User is logged in to the application	User should be presented with recommended results on clicking submit The recommended results should be in accordance to the selections user made
Verify whether user has options to filter the recommended results as weel	1. Application is accessible 2. User is logged in to the application	User should have options to filter the recommended results as well.