Low Level Design (LLD)

Adult Census Income Prediction

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Document Version Control

Version	Date	Author	Comments
0.1	29-08-2021	Satyajeet Narayan	Introduction &Technical Specification
0.2	30-08-2021	Milind Sai C	Technology Stack Key Performance Indicator

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Abstract

In recent trends many employees are acquiring a salary in less than Rs.50k due to excess of population and also company expense is going high. Now a day's technology is improved compare to an employee, machine works several factors times better and proceeds higher productivity in lesser time.

Adult Census Income Prediction helps in drawing inferences from the recorded data. Since there is a problem in employment, Adult Census Income Prediction helps in knowing the salary in relation to factors such as age, qualification, gender etc.

1 Introduction

1.1 Why this 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 Adult Census Income Prediction. 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

1.3 Constraints

We will only be selecting a salary based on independent variable.

1.4 Risks

Document specific risks that have been identified or that should be considered.

2 Technical specifications

2.1 Predicting Salary

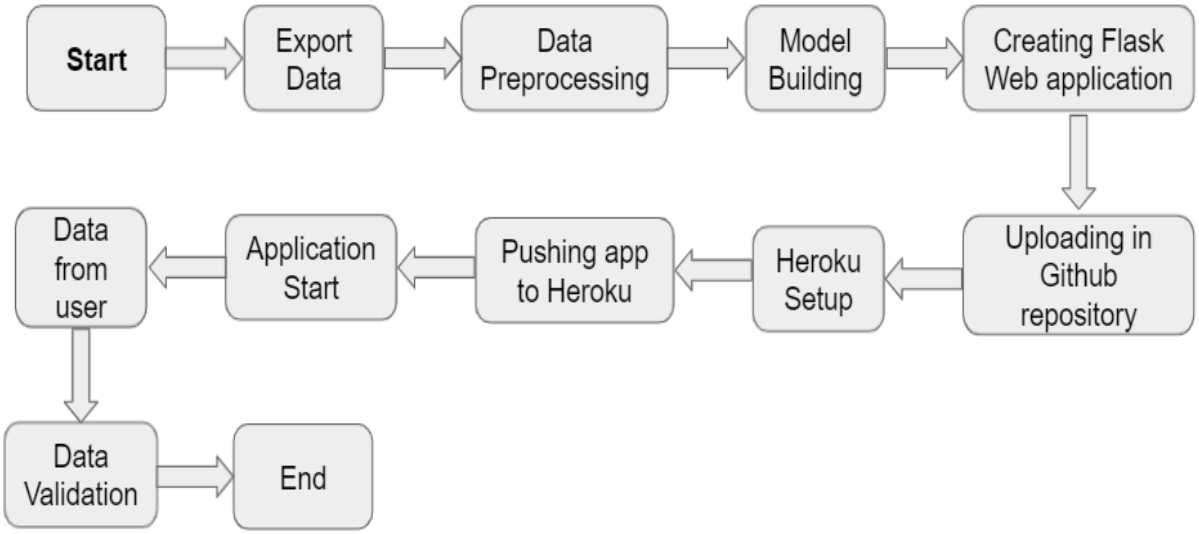
- The system displays the choices of the Salary
- The User selects the independent variable necessary, based on prediction of salary.
- The user gives required information.
- The system should be able to predict whether salary is more than Rs.50k or less than Rs.50k based on the user information.

2.2 Deployment

3 Technology stack

Front End	HTML/CSS/JS/React
Backend	Python Flask
Deployment	Heroku

4 Model training/validation workflow



5 Key performance indicators (KPI)

- Comparison of accuracy of model prediction and actual prediction.
- Occupation and education is more important for predicting the actual prediction.
- Capital Gain and Capital Loss is conforming whether the salary is less are greater than Rs.50k for adult.
- The reported performance is good, but not highly optimized (e.g. Hyper parameters are tuned)
- Implementing the pipe line, where the first step is a column transformer that applies a one hot encoder to just the categorical variables and numerical variable which helps to predict the actual prediction.