

# Low Level Design (LLD)

Energy Efficiency prediction

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# Document Control

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# Contents

1 Introduction .....	4
1.1 What is Low-Level design document? .....	4
1.2 Scope.....	4
2 Architecture.....	5
3 Architecture Description .....	6
3.1 Data Description.....	6
3.2 Exploratory Data Analysis.....	6
3.3 Data Pre-processing.....	6
3.4 Model Building .....	6
3.5 Data Validation.....	6
3.6 Deployment.....	7

# 1 Introduction

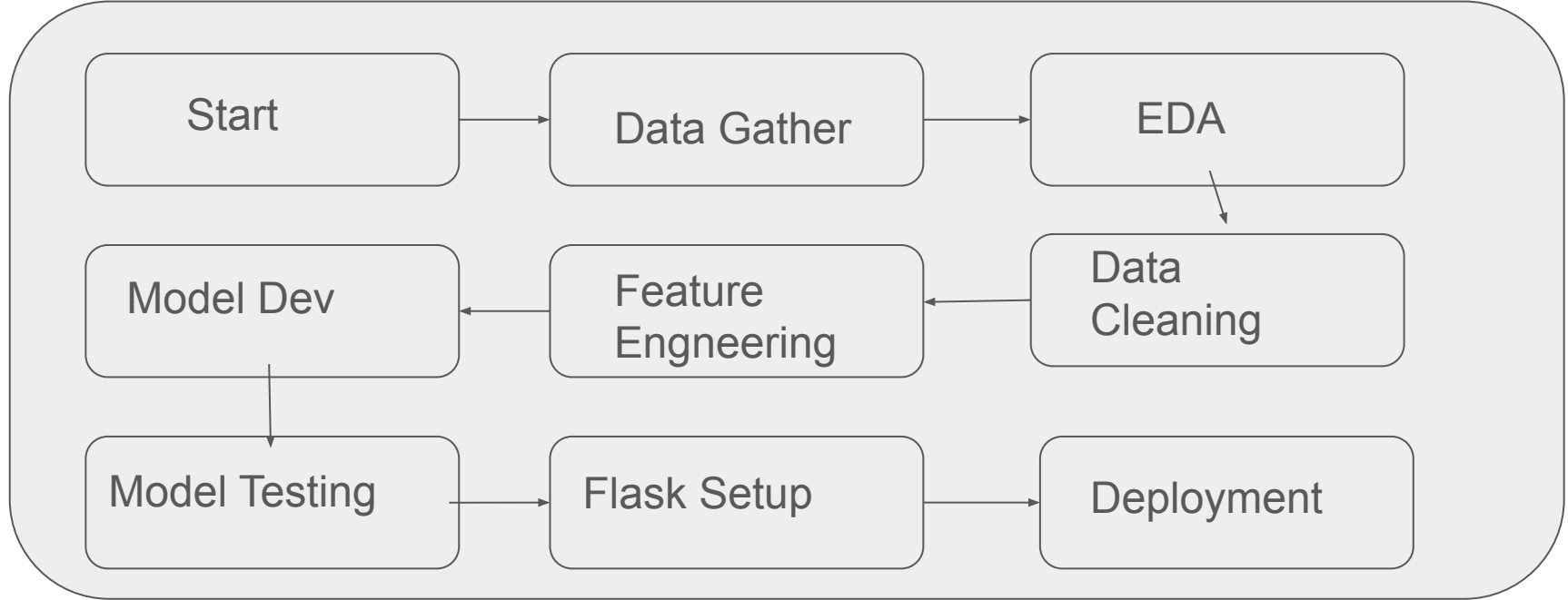
## 1.1 What is Low-Level design document?

The goal of LLD or a low-level design document (LLDD) is to give the internal logical design of the actual program code for Food Recommendation 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 Description

The primary source of data for this project from UC Irvine Machine Learning Repository. The dataset is comprised of 750 records with six attributes. The data is in a structured format and stored in a CSV file.

### 3.2 Exploratory Data Analysis

Exploring the data by visualizing the distribution of values in some columns of a dataset and the relationships between expenses and another column. Visualizing, the distribution of Aspect ratio and Glazing Area. Also, check the Orientation-wise have any differences in the heating and cooling co-officiants.



### 3.3 Data Pre-processing

If data is not suited to take place directly for the Multi Output Regression. Then, cleaning of dataset becomes important for using the data under various regression algorithms.

### 3.4 Model Building

After data pre-processing is completed, we will split the dataset into training sets and validation sets. Then we will use a training set for building the best model. The model will be trained on several algorithms. We will calculate RMSE and  $r^2$  scores for each model and select the model with the best score.

### 3.5 Data Validation

Here Data Validation will be done on the test set.

### 3.6 Deployment

We will be deploying the model to the EC2 instance AWS platform.