Project Design Phase - I
Solution Architecture

Date	01 October 2022
Team ID	PNT2022TMID35179
Project Name	Predicting the energy output of wind turbine based on weather condition
Maximum Marks	4 Marks

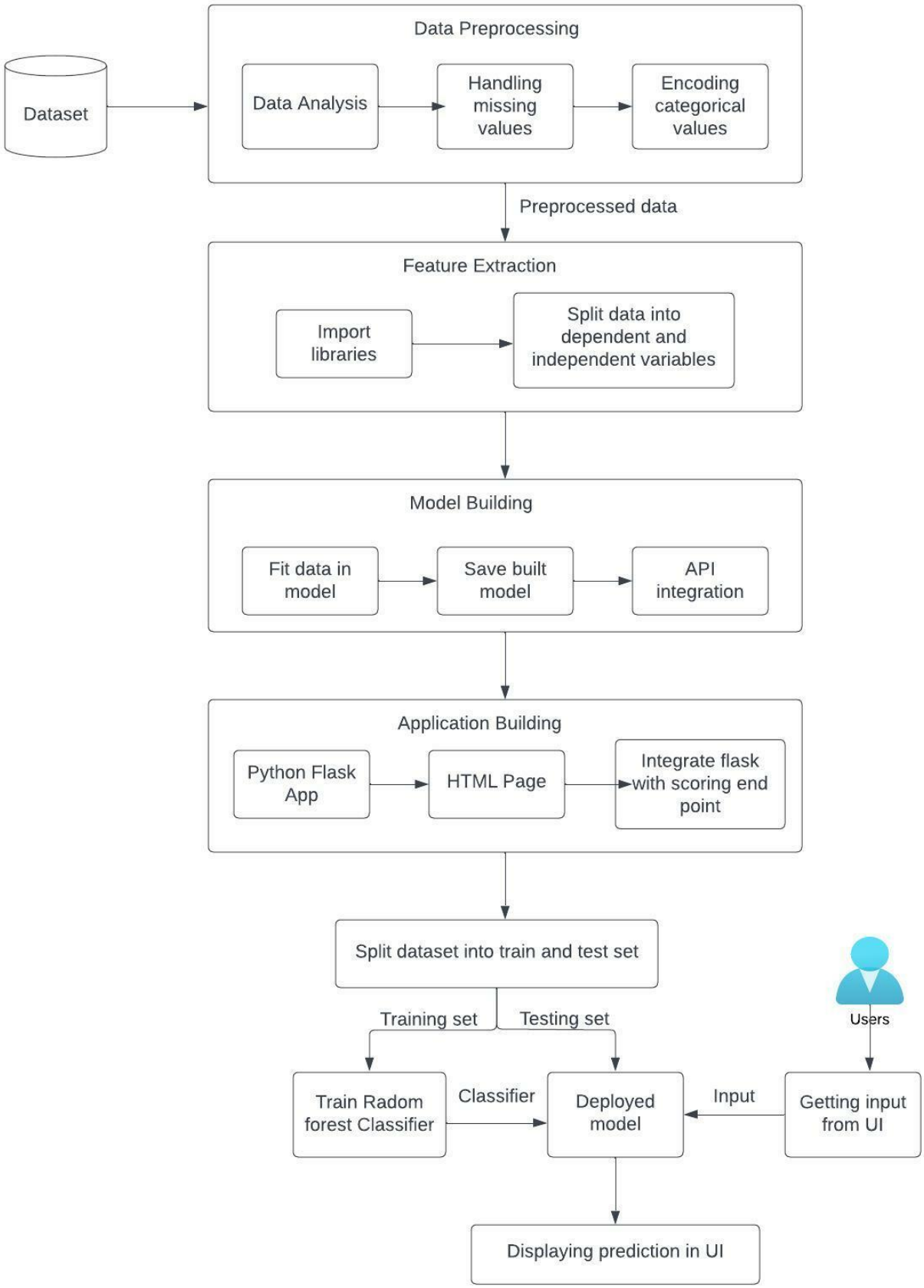
Architectural Workflow:

User View:

1. User enters weather condition details for a wind turbine in the UI
2. Entered input is sent to the regression model deployed through IBM Watson
3. The model predicts the energy output of the wind turbine and send it to the UI
4. The predicted value is displayed at the frontend

Model View:

1. The dataset is pre-processed for handling missing values/categorical values
2. Feature extraction is performed
3. The data is split into dependent and independent variables
4. The dataset is split as train and test set
5. A random forest classifier is built and is trained with the training data
6. The model is evaluated using the testing data
7. The trained model is deployed in IBM Watson


Data Preprocessing
Dataset
Data Analysis
Handling missing values
Encoding categorical values
Preprocessed data
Feature Extraction
Import libraries
Split data into dependent and independent variables
Model Building
Fit data in model
Save built model
API integration
Application Building
Python Flask App
HTML Page
Integrate flask with scoring end point
Split dataset into train and test set
Training set
Testing set
Users
Train Radom forest Classifier
Classifier
Deployed model
Input
Getting input from UI
Displaying prediction in UI