Project Design Phase - I
Solution Architecture

Date	05 October 2022
Team ID	PNT2022TMID13084
Project Name	Developing a flight delay prediction model using Machine Learning
Maximum Marks	4 Marks

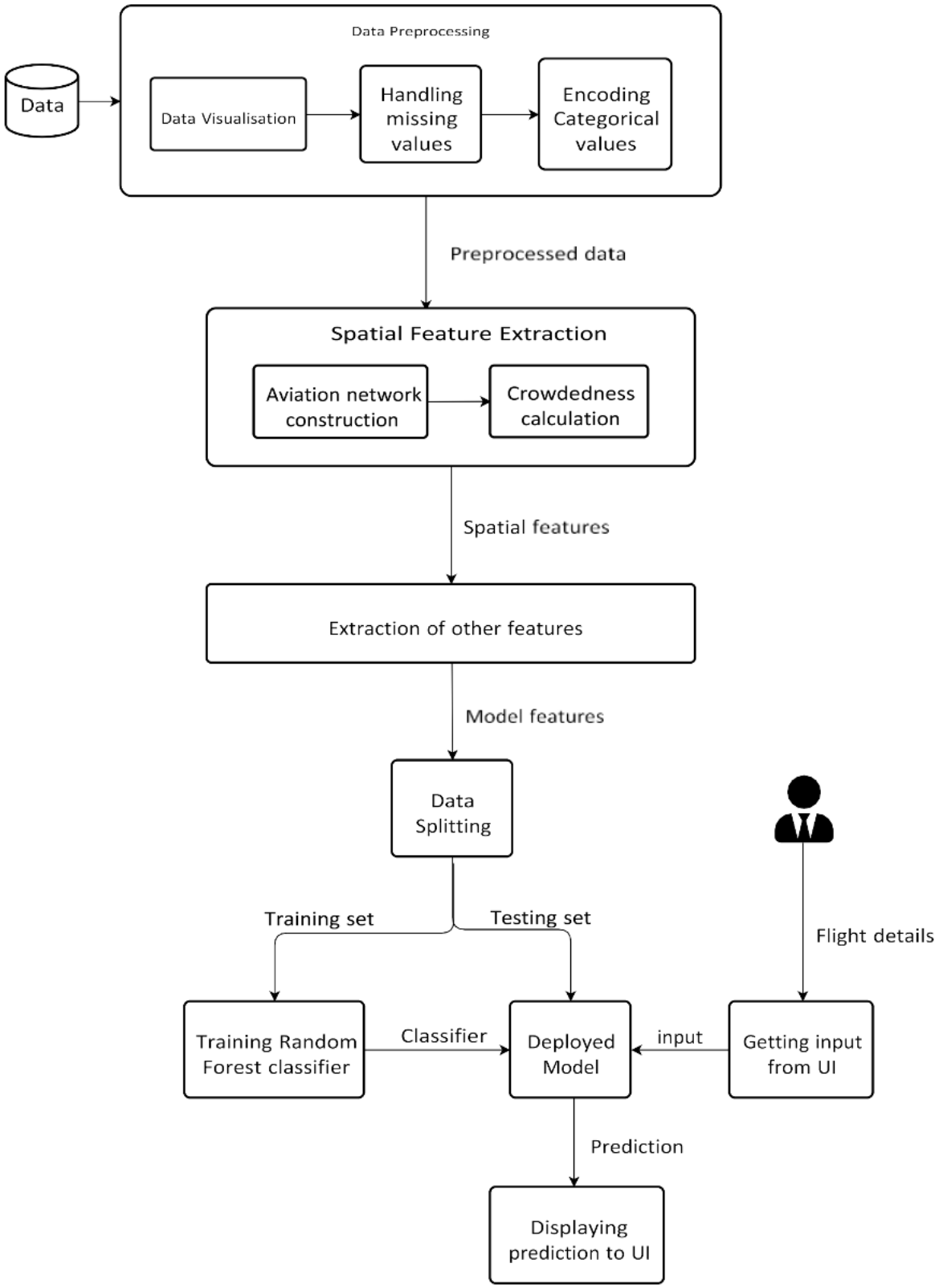
Architectural Workflow:

User view:

- ❖ The user inputs flight details to the UI.
- ❖ Entered input is sent to the classifier model which is deployed through IBM Watson.
- ❖ The model predicts the estimated time of departure/arrival delay and sends it to the UI.
- ❖ The predicted value is displayed to the UI

Model view

- ❖ The dataset is preprocessed for handling missing/categorical values.
- ❖ Spatial and other features are extracted.
- ❖ The features are split into training and test sets.
- ❖ A Random forest classifier is built and is trained using the training data.
- ❖ The model is evaluated using testing data.
- ❖ The trained model is deployed in IBM Watson


Data Preprocessing
Data
Data Visualisation
Handling missing values
Encoding Categorical values
Preprocessed data
Spatial Feature Extraction
Aviation network construction
Crowdedness calculation
Spatial features
Extraction of other features
Model features
Data Splitting
Training set
Testing set
Flight details
Training Random Forest classifier
Classifier
Deployed Model
input
Getting input from UI
Prediction
Displaying prediction to UI