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(57) Abstract :
Accurate flight delay prediction is fundamental to establish the more efficient airline business. An important business of airlines is to get customer satisfaction. Their prediction is crucial during the decision-making process for all players of commercial aviation. Due to bad weather, a mechanical reason, and the late arrival of the aircraft to the point of departure, flights delay and lead to customer dissatisfaction. A predictive model of on-time arrival flight is proposed with using flight data and weather data. In this paper, using machine learning models such as Decision Tree Regression, Bayesian Ridge, Random Forest Regression and Gradient Boosting Regression we predict whether the arrival of a particular flight will be delayed or not. In this application, we have preprocessed the data by removing the null values and encoding all the variables. We have also scaled all the predictor variables. We have used Decision Tree, Bayesian Ridge, Random Forest and Gradient Boosting regression. The best model was the Random Forest (by a small margin) model with Hyper parameters tuning the dataset used was the 2015 FAA Flight dataset.

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