A

Major Project

On

Predicting Flight Delays using Machine Learning

(Submitted in partial fulfillment of the requirements for the award of Degree)

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

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ABSTRACT

Flight delay is a major problem in the aviation sector. During the last two decades, the growth of the aviation sector has caused air traffic congestion, which has caused flight delays. Flight delays result not only in the loss of fortune also negatively impact the environment. Flight delays also cause significant losses for airlines operating commercial flights. Therefore, they do everything possible in the prevention or avoidance of delays and cancellations of flights by taking some measures. In this paper, using machine learning models such as Logistic Regression, 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. Many attempts have been by researchers in the past for predicting flight delays using Machine Learning, Deep Learning and Big Data approaches. Kalliguddi(author) constructed regression models like Decision Tree Regressor, Random Forest regressor on flight data for predicting both departure and arrival delays. The main issues are to find the error rate in terms of predictions and reducing the error factor in the model.

HARDWARE

- Ram : 4 GB and above
- Hard Disk : 500 GB and above
- Graphic Processing unit if required.

SOFTWARE

- OS : Windows 10
- Technology : Python,
- Domain : Machine Learning / Deep Learning

CONCLUSION

The primary goal of this project is to predict airline delays caused by various factors and Error rate on models. Flight delays lead to negative impacts, mainly economical for commuters, airline industries and airport authorities. To carry out the predictive analysis, which encompasses a range of statistical techniques from supervised machine learning and, data mining, that studies current and historical data to make predictions or just analyze about the future delays, with help of Regression Analysis using regularization technique in Python.