## Developing a Flight Delay Prediction Model using Machine Learning

| S. NO | TITLE                                | AUTHOR  | ABSTRACT   | DRAWBACKS   |
|-------|--------------------------------------|---|--|---|
| 1.    | Flight Delay<br>Prediction           | Alice Sternberg, Jorge Soares, Diego Carvalho, Eduardo Ogasawara                    | Flight delays hurt airlines, airports, and passengers. Their prediction is crucial during the decision-making process for all players of commercial aviation. Moreover, the development of accurate prediction models for flight delays became cumbersome due to the complexity of air transportation system, the number of methods for prediction, and the deluge of flight data. In this context, this paper presents a thorough literature review of approaches used to build flight delay prediction models from the Data Science perspective. Here, proposed a taxonomy and summarize the initiatives used to address the flight delay prediction problem, according to scope, data, and computational methods, giving particular attention to an increased usage of machine learning methods. Besides, also present a timeline of significant works that depicts relationships between flight delay prediction problems and research trends to address them. | Dimensions were not directly related to the type of problem, but to the scope of application. This characteristic is notable in this case. Attributes such as weather, capacity, and demand were characteristics of airport or enroute airspace scopes. On the other hand, airlines schedules indicated scopes that considered airlines elements. It was also observed several ensembles of different dimensions, showing that prediction models may be improved through the selection of different attributes. |
| 2.    | Flight Delay<br>Prediction<br>System | Mrs Yogita Borse,<br>Dhruvin Jain, Shreyash<br>Sharma, Viral Vora,<br>Aakash Zaveri | Flight Planning is one of the challenges in industrial world which faces many uncertain conditions. One such condition is delay occurrence, which stems from various factors and imposes considerable costs on airlines, operators, and travelers. Delays in departure can occur due to bad weather conditions, seasonal and holiday demands, airline policies, technical issue such as problems in airport facilities, luggage handling and mechanical apparatus, and accumulation of delays from preceding flights. Here in flight delay prediction system based on the weather parameters which can result in delays. The system considers the temperature, humidity, rain in mm, visibility and month number as important parameters for prediction of delay.  | Results in this system is not so accurate. Although weather conditions are the major reasons for flight delay, other unprecedented events such as major calamities , natural or man-made can cause major delay in flight which is not considered in this Prediction System.   |
| 3.    | Flight Delay<br>Prediction           | Vishrut Raj , Viran Raj,<br>Satyam Singh ,<br>Adityanath Mishra                     | Fight delay prediction is fundamental to establish the more efficient airline business. The development of accurate prediction models for flight delays became cumbersome due to the complexity of air transportation system, the number of  | This model only included one-year data due to our computation capability, as more years of data included, the prediction could be   |

methods for prediction, and the deluge of flight data. The paper presents a thorough literature review of approaches used to build flight delay prediction model. Airlines delays make immense loss for business field as well as in budget loss for a country. Flight delays hurt airlines, airports, and passengers. Here, proposing a machine learning algorithms like Linear regression Techniques. The aim of this research work is to predict Flight Delay, which is highest economy producing field for many countries and among many transportations this one is fastest and comfort, so to identify and reduce flight delays, can dramatically reduce the flight delays to saves huge number of turnovers, using machine-learning algorithms. Flight delays could always be annoying, especially in the case when the period of delay was so long that there was even a danger to miss the next flight. However, if there was a way to predict whether there would be a delay or even better - how long the delay could be, then people could make earlier preparation to reschedule following flights in an earlier manner.

easier. In addition, some other related information such as airplane type, e.g., detailed weather data specific to airport were not included. Therefore, researchers could try to collect more related data and deploy better computational powers to build a better mode.