**Abstract**

Flight delays critically impact passengers, airlines, and the economies of affected regions. We aimed to predict flight delays by developing a structured prediction system that utilizes flight data to forecast departure delays accurately. This project involved a comprehensive analysis of various machine learning methods, utilizing a dataset containing information related to flights. The primary focus was on extracting valuable insights from this extensive dataset to accurately predict flight delays. By conducting thorough assessments and comparative analyses, we appraised and contrasted these techniques regarding their efficacy in predicting flight delays to obtain valuable insights into the effectiveness of these methods. The methods suggested in this project are anticipated to provide airline companies with the ability to make accurate predictions of delays, improve flight planning, and reduce the impact of delays. Keywords—Machine learning, Flight Delay Prediction, Random Forest, Logistic Regression, Support Vector Machine (SVM)