

## ABSTRACT

Flight on time performance is one of the important indicators in assessing the quality of airline services. Flight delays can be caused by various operational factors, so an analysis that can accurately classify flight on time performance is needed. This study aims to develop a flight on time performance classification model using Support Vector Machine (SVM) with the One-vs-Rest (OVR) approach as a multi-class classification. The data used is divided into 80% training data and 20% testing data. The SVM model was built using a Radial Basis Function (RBF) kernel with optimal parameter selection performed using the Grid Search and Stratified 10-folds Cross Validation methods. Model performance evaluation was carried out using accuracy, precision, recall, and F-1 Score metrics. The results showed that the SVM model was able to classify flight on time performance categories with an accuracy of 71%. The precision, recall, and F-1 Score values obtained were 69%, 56%, and 57%, respectively. These results indicate that the SVM method with RBF kernel can be used to classify flight on time performance with fairly good performance.

**Keywords:** *Support Vector Machine, One-Vs-Rest, flight punctuality, classification, RBF kernel.*