

# Weather variability control in three Colombian airports

## Autores

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## Abstract

The aeronautic sector has been economically affected by the closure of its operations with the appearance of the Covid-19. For reducing the impact of weather variables at airport operations, we present a predictive model for better planning. Better planning reduces operative costs and increase the level of client satisfaction. This paper uses hourly observation from 2011 to 2018 at three Colombian airports: The Dorado airport in Bogota, the Olaya Herrera airport in Medellin, and the Matecana airport in Pereira. We build prediction models with deep learning and machine learning methods. These models aim to forecast horizontal and vertical visibility variables with minimum errors. The Random Forest decision tree model performs better predicting these variables in one, six, and twenty-four hours. This model has better results with the horizontal variable visibility forecasting for the three airports giving errors among 4% and 8%. This algorithm gave a flexible solution, and any airport can implement it.

## Palabras clave:

Random forest, Horizontal visibility, Vertical visibility.