**DELIVERABLE 2: READ.me *(Draft 1)***

**Group 4: Final Project**

Group Meeting: Sunday, May 7, 2023

**January 2020 Flight Predictions:**

**Flight Delays, Best and Worst Airports and Airlines**

1. **SEGMENT 2 DELIVERABLES: COMPLETED**
2. **Detailed README.md**

*\*A detailed README.md file that includes the projects status, images, descriptions, and results*

1. **Machine Learning Model – First Attempt**

*\*First attempt of a machine learning model, including a confusion matrix and accuracy score*

Classification Model testing

* Logistic Regression Model:
* Training Accuracy: 93.21%
* Testing Accuracy: 93.14%
* Precision (weighted average): 93%
* Recall (weighted average): 93%
* F1-Score (weighted average): 93%
* Random Forest Classifier:
* Training Accuracy: 90.78%
* Testing Accuracy: 89.69%
* Precision (weighted average): 90%
* Recall (weighted average): 90%
* F1-Score (weighted average): 87%
* Gradient Boosting Classifier:
* Training Accuracy: 93.21%
* Testing Accuracy: 93.21%
* Precision (weighted average): 93%
* Recall (weighted average): 93%
* F1-Score (weighted average): 93%

Best Model for our Project:

It has the highest testing accuracy (93.21%) among the three models, which shows it works well with unseen data. It has a strong balance between precision, recall, and F1-score, indicating that it performs well across different metrics.

The model is not only good at identifying true positives but also at minimizing false positives and false negatives, making it the most reliable choice. We believe this will be the best model for our final project.

Calendar

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1. **Visualization Dashboard**

*\*First attempt of a working dashboard*

1. Link to working Tableau dashboard below:

<https://public.tableau.com/app/profile/kennan.foust/viz/ProjectTableau_16832615644700/Dashboard1?publish=yes>

1. Please find below a picture of the first Tableau Dashboard draft:

A screenshot of a graph

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1. **Database**

*\*Database that stores data for the project (if applicable)*

1. A database was setup using AWS. Link to database is below:

http://flightdelay.cqtoprenvzmu.us-east-2.rds.amazonaws.com

1. ER Diagrams were created using Quick DBD *(pictured below)*
2. PgAdmin – add screen shot *(pictured below)*

ER Diagrams

*Graphical user interface, text, application, chat or text message

Description automatically generated*

PgAdmin

*A screenshot of a computer

Description automatically generated with medium confidence*

1. **Group 4 Presentation – Draft**

*\*Draft of presentation*

1. Link to PowerPoint presentation in README.md