**INSIGHTS OF FLIGHT TICKET PRICE PREDICTION**

**PROBLEM STATEMENT**:To predict the price of the flight tickets in the test data.

**SUMMARY STATISTICS:** The median price of the ticket is ₹ 8372

**DATA VISUALISATION:**

1. Flights taking off between 1 am to 2 am have the lowest ticket fare with average price less than ₹ 5000.
2. Average price ticket of Jet Airway Business is the highest among all others. Approximately, it is four times higher than the second costliest one.
3. Flight with minimum Average ticket fare is Trujet. Followed by Spicejet, Air Asia, Indigo and GoAir.
4. Layover have an influence on the fare. As the number of layovers increases, the price also increases.
5. Mostly people prefer Air India, Indigo and Jet Airways.

**DATA EXPLORATION:**

1. There were 12 Airlines in the given train dataset.
2. Although, Jet Airway Business have the highest amont of ticket fare of ₹ 79,512, it was just 5 hours and 40 minutes journey, with one layover from Bangalore to New Delhi.
3. Trujet was taken only once which was from Mumbai to hyderabed.
4. Within the given four months data, JetAirways was mostly preferred by the people with the count of 3849 trips.
5. The Minimum fare is offered by SpiceJet that operates from Mumbai to Hyderabad with amount of ₹ 1759
6. The Average Fare of tickets is ₹ 9090. But, the fare gets reduced for the night travel. If the journey is between 10pm and 6am, then the average fare is ₹ 8330.
7. Jet Airways Business is the costliest flight with the ticket price ranges between

₹ 45,000 and ₹ 80,000.

1. Airline that offers the cheapest ticket fare is Vistara Premium Economy, AirAsia, Multiple Carriers premium economy. The highest fare of all the above three airlines were below ₹ 20,000.

**MODEL BUILDING:**

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| **MODEL** | **RMSE** | **R-SQUARED** |
| Linear regression | 2820 | 0.62 |
| Random forest | 2027 | 0.80 |
| XGBoost | 2501 | 0.71 |
| Lasso | 3100 | 0.55 |
| Ensemble | 2538 | 0.10 |