



Your Next Destination

A LOOK INTO
TRENDING
DESTINATIONS

The Overview

- Find popular destinations for airlines to focus on in order to maximize profit
- Forecast top 10 destinations on a monthly basis
- Help prepare airlines on flight/fleet logistics
- Increase and decrease flights to popular destinations based on forecast



The Procedures

- Destinations and its passenger volume became the features on a datetime index
- Date range from Jan 2013 to May 2024
- Destinations outbound from USA
- Pre-processing Time Series model
- Interpolation of missing dates
- Decomposition of time series elements (Trend, Seasonal, Residual)
- Differencing for stationarity (constant mean, variance, standard deviation)
- Autocorrelation function (ACF) and Partial Autocorrelation function (PACF)

The Findings

- Most of the destinations were non-stationary
- Upwards trend from 2013 to 2020. BIG drop in 2020. Recovery 2021 onward.
- Several consistent destinations in the monthly top 10
- Outliers in 2020-2021
- Nearby vacation destinations spiked post 2021 (e.g. Cabo, Mexico; Punta Cana, DR; Montego Bay, Jamaica)

The Evaluation

- ♦ Model for 93 destinations using SARIMA.
- ♦ Forecast 24 months
- ♦ Evaluate the top 10 destinations within that 24 months



Next Steps...

- ♦ Prophet model
- ♦ Compare SARIMA to SARIMAX

