



Your Next Destination

A LOOK INTO
TRENDING
DESTINATIONS

JOE CHA

The Overview

- ♦ Could airlines profit from predicting popular destinations?
- ♦ Forecast popular destinations on a monthly basis for the upcoming year
- ♦ Logistically help prepare airlines in terms of flight scheduling and fleet maintenance



The Procedure

- Flights to over 170 different destinations from Jan 2013 to May 2024
- Different top destinations emerged during the pandemic
- Feature engineering: A dataset of 61 destinations outside of USA
- Required 3rd order of differencing



The Key Insights

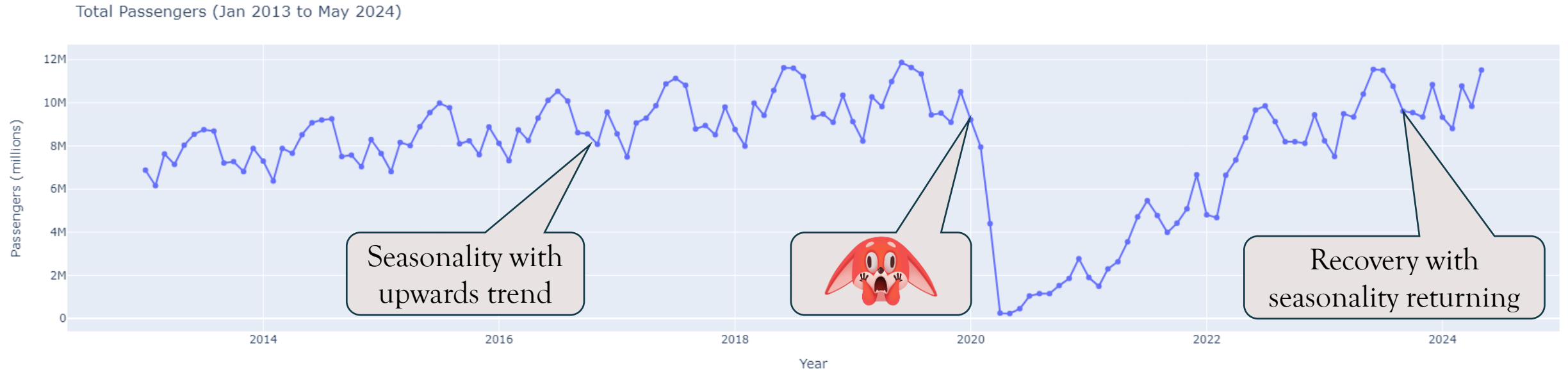


Fig.1 Total Passengers Over the Years

The Key Insights

Popular Destinations over the Years

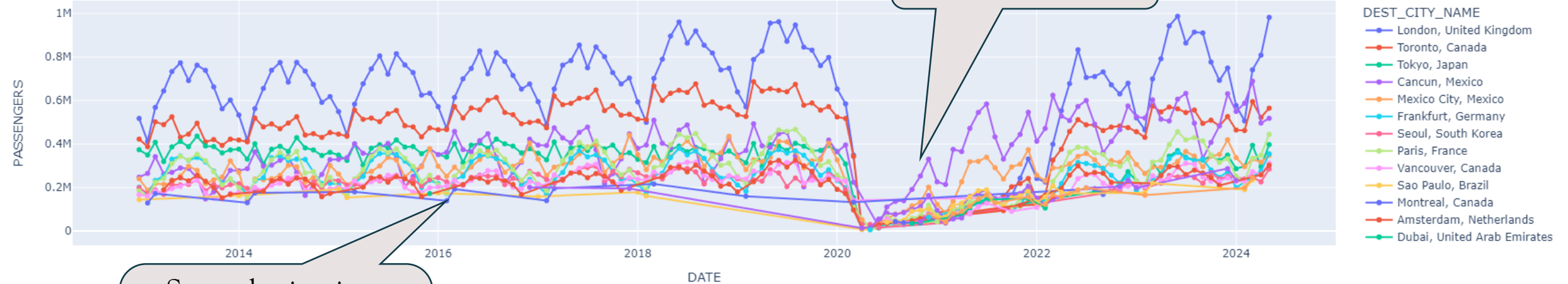
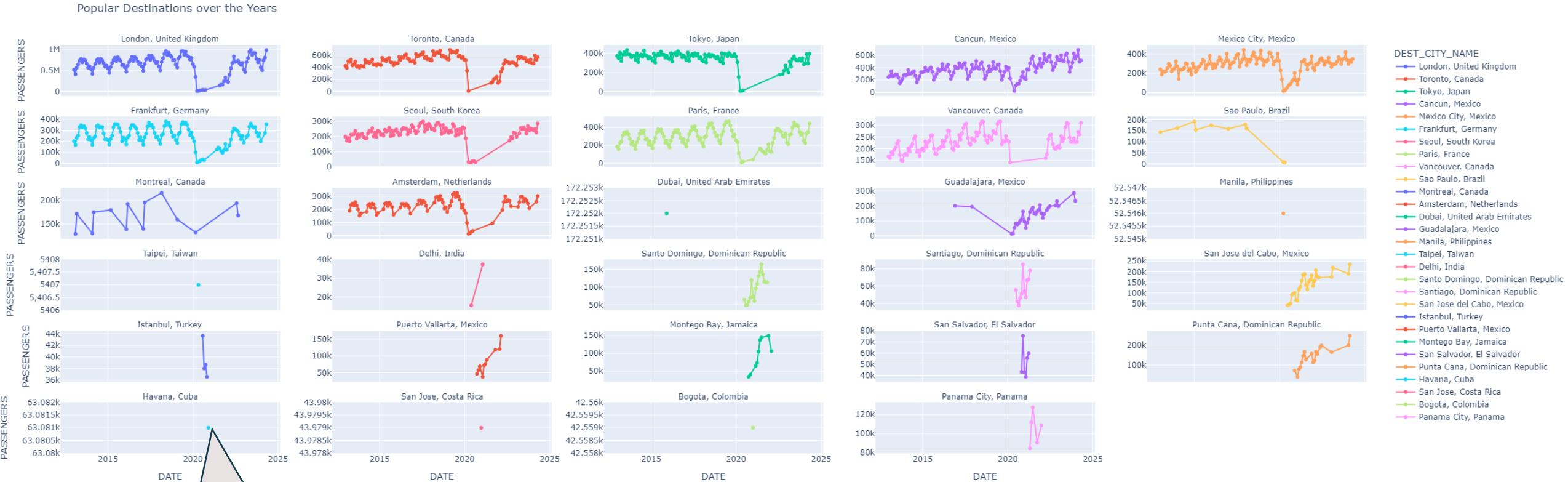


Fig. 2 Monthly Top 10 Destinations

The Key Insights



What to do with a single data point?

Fig.3 Monthly Top 10 Destinations Individually

The Comparison

Table 1. Statistical Summary of Models

	SARIMA (2013-2024)	SARIMA (2013-2020)	Prophet (2013-2024)	Prophet (2013-2020)
MAPE	4.4-34%	2.7-29%	2.1-46%	3.2-18%
Max	599%	53%	155%	57%
Min	4.4%	2.7%	2.1%	3.2%

The Result

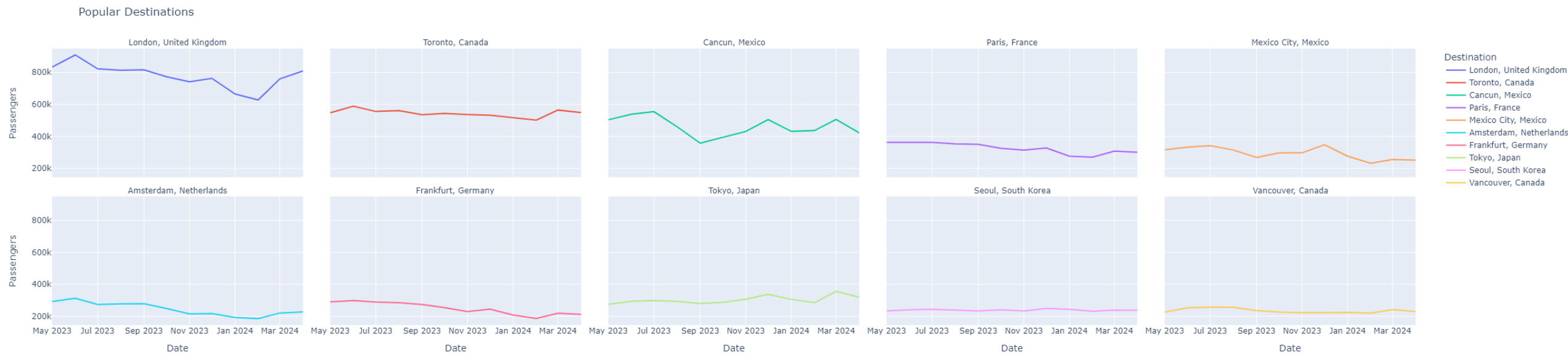


Fig.4 Forecasted Destinations

The Interpretations

- Models trained on dataset from 2013-2020 yielded better performance (MAPE)
- 3 of the 4 models forecasted the same destinations
- Prophet model (2013-2024) forecasted the same destinations plus more



Questions?

