Instructions:

Hello! Welcome to the Boba Bubble Tea App! Using this app, you can observe trends, decomposition, and predict the interest of Boba Bubble Team using data from Google Trends.

Forecast Box: By selecting the box you will see a forecast (the purple waves towards the end), this shows you the predicted value of interest in Boba Bubble Team for the next 4 years.

Select Box: Using the Select box, you will see the following options: Seasonality, Decomposition, and Autocorrelation. This controls the chart on the right. It will show you the chart that has been selected.

\*Disclaimer: The Decomposition will take a few moments to load. Please be patient. \*

Date Range: You can select dates to show a specific time to analyze the interest in Boba Bubble Tea.

Charts:

The chart on the left is a time series chart that shows the trend of Interest in Boba Bubble Tea over time. It has data from 2004 to 2022.

The chart on the right is one of the following:

Seasonality- shows the most popular/unpopular times throughout the different years. Example) Pumpkin Spice Lattes are more popular in October.

Decomposition – shows the different aspects that contribute to the overall trend.

Autocorrelation- shows the correlation of different months that respond to the original series therefore showing what would be most accurate and useful for predicting future interest.

Interpretations:

Time-Series:

The time series shows that the overall trend of interest in Boba Bubble Tea has increased since 2005. However, around 2020/2021, there appears to be a decrease in interest. With the forecast set for the next 4 year, this chart predicts that the interest in Boba Bubble Tea will decrease but remain more popular than it was than in the early-mid 2000’s.

Seasonality:

According to the seasonality chart, there is more interest in Boba Bubble Tea around spring/summertime. There is not much if any seasonality around winter. The seasonality in the summer has grown over the past years. Interest in Boba Bubble Tea increased majorly around 2014/2015.

Decomposition:

Decomposition is broken into three parts: trends, seasonality, and random. The trend is positive and going up. Recently it has a sharp decrease around what appears to be 2020. The seasonality is very high meaning there is seasonality present in the interest in boba. This can be further explained by the seasonality chart. Random represents “white noise” with in chart that explains movements that cannot be explained. It appears there is more white noise in early and recent years. This could be caused by the lurking factor that is COVID Pandemic that affect lots of businesses. Image inserted below due to loading times taking longer than desired.

A sheet of music

Description automatically generated with low confidence

Autocorrelation:

Since all lines are beyond the blue dotted line, we know they are significant. Lag one is the most correlated with the original series. Correlations have values from -1 to +1. Lag one has a correlation of roughly .9. Lag one is a representation of last month. Last month has the most accurate data to use for predicting the interest in Boba Bubble Tea.