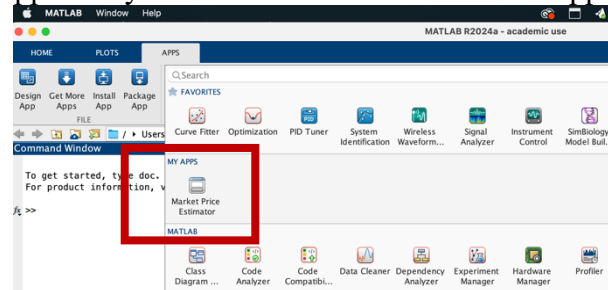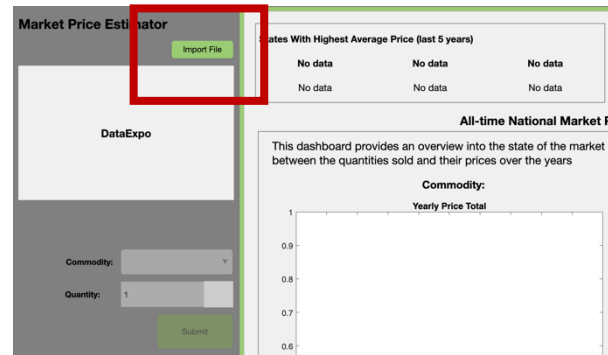# MATLAB NIGERIA CODING CHALLENGE 2024

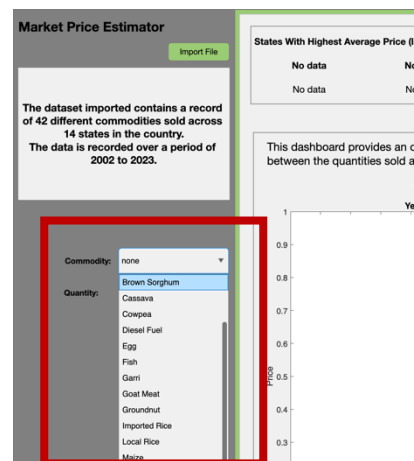## Market Price Estimator App Tutorial by **JARVIS**

Step One: Launch the app from your file folder or the MATLAB Apps menu.



Step Two: Import the correct dataset into the Market Price Estimator App



Step Three: After importing the dataset, the app should display basic information about it. Then, you select the commodity and quantity of the commodity that you wish to forecast or gain insight into.
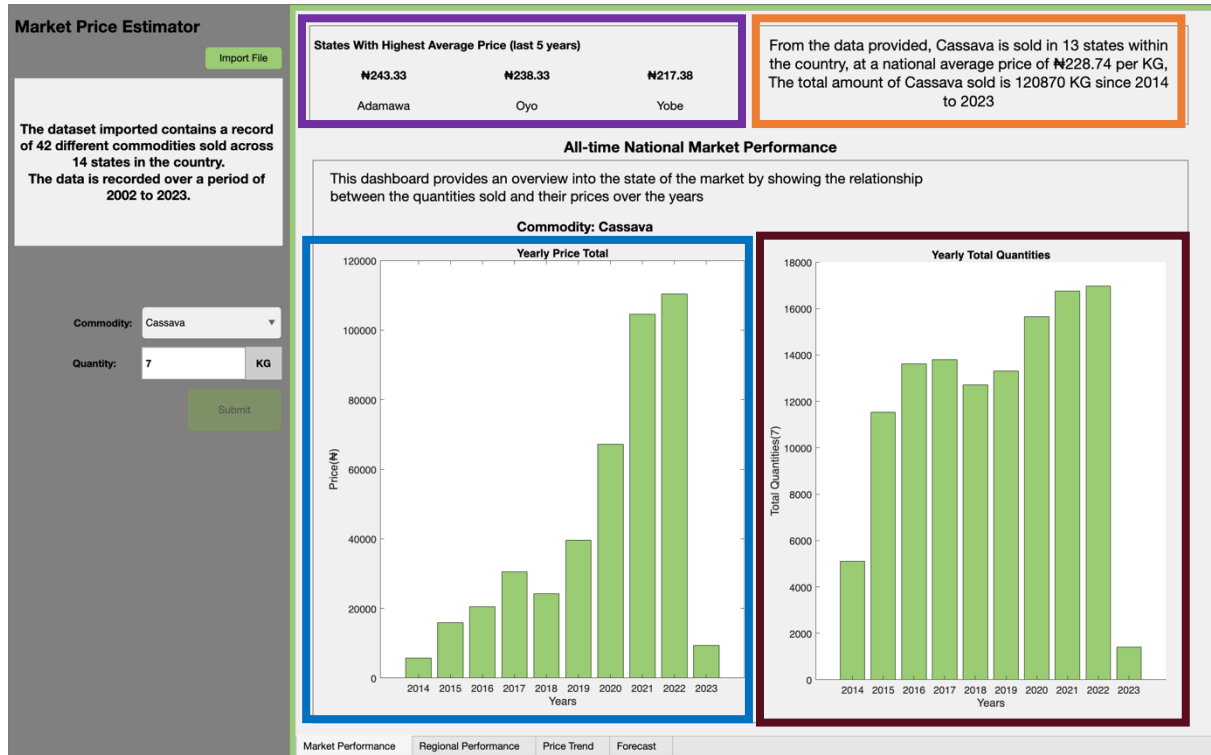


Step Four: Next is to understand each of the graphical visualizations, but before then, there are four menu pages accessible from the bottom of the app. They include; Market Performance, Regional Performance, Price Trend, and Forecast.

**Market Performance Menu Bar**

This menu emphasizes MATLAB's Data Analytics strength and allows users to get a quick insight into the chosen commodity. The market performance analytics gives insights into the trend of the chosen commodity across the recorded years.
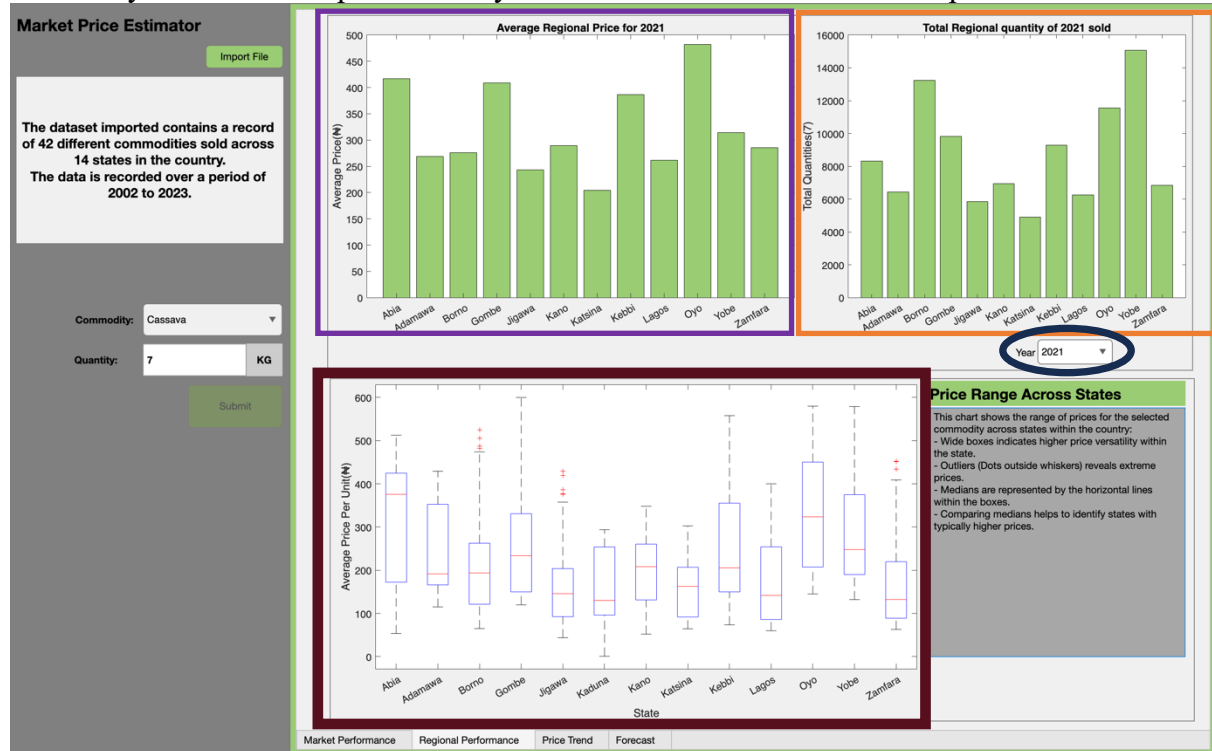
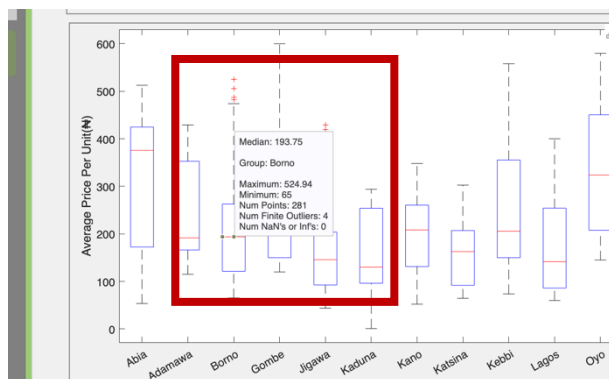Note: all information displayed is extracted from the imported dataset.



- This displays the states with the highest price average for the last 5 years for the chosen commodity.

- This gives more information about the chosen commodity, the number of states where it is being sold, the average price taken across all states, and the total quantity that has been sold. All information here is based on the imported dataset.

- This displays the total revenue made from the commodity across the years in NGN.

- This displays the total quantity of the commodity sold across the years in its respective unit.

## Regional Performance Menu Bar

This gives insight into the trend of the chosen commodity across the states where it is being sold. Also, you can check the trend of the chosen commodity across the states for different years. It also helps us identify outliers in the dataset via the box plot.
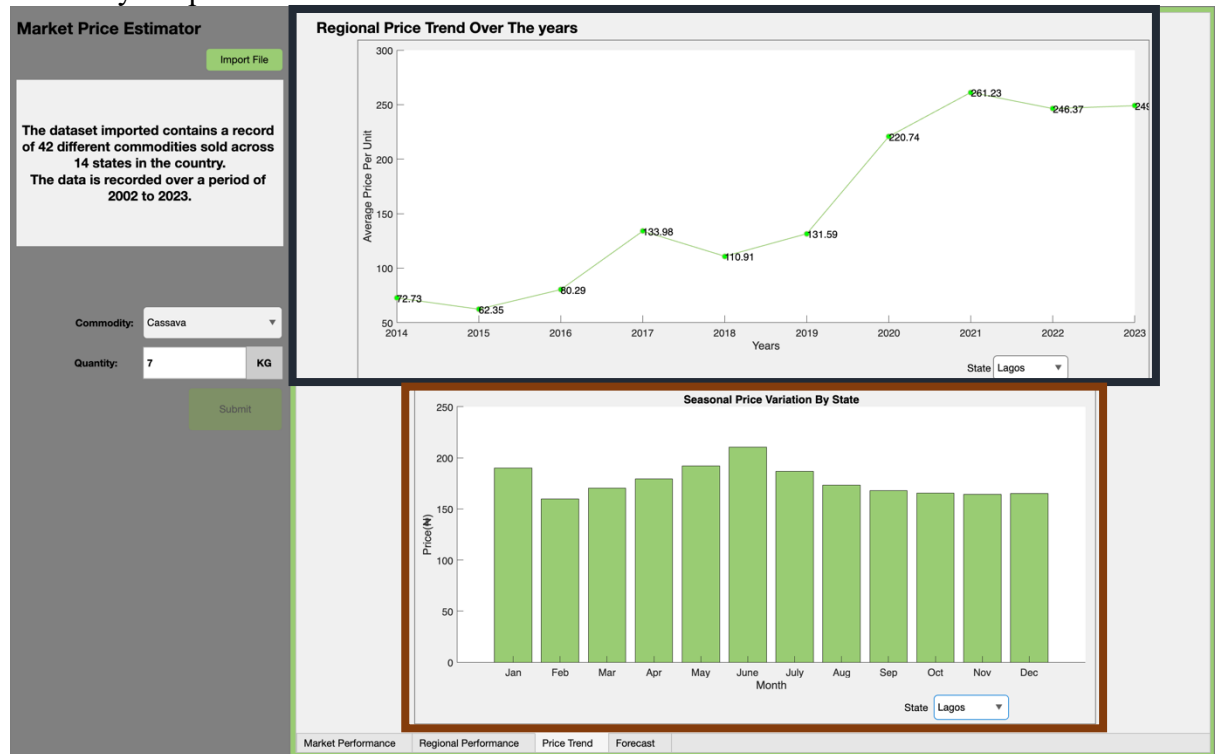


- This displays the average price of the chosen commodity across the states in which it is being sold in NGN for the chosen year.

- This displays the total quantity of the chosen commodity sold across the states for the chosen year.

- This lets you select the year you want to visualize.

- This boxplot gives you further insights into the average price across the states and helps you identify outliers.



Note: you get this pop-up box by hovering over the boxes with your cursor.
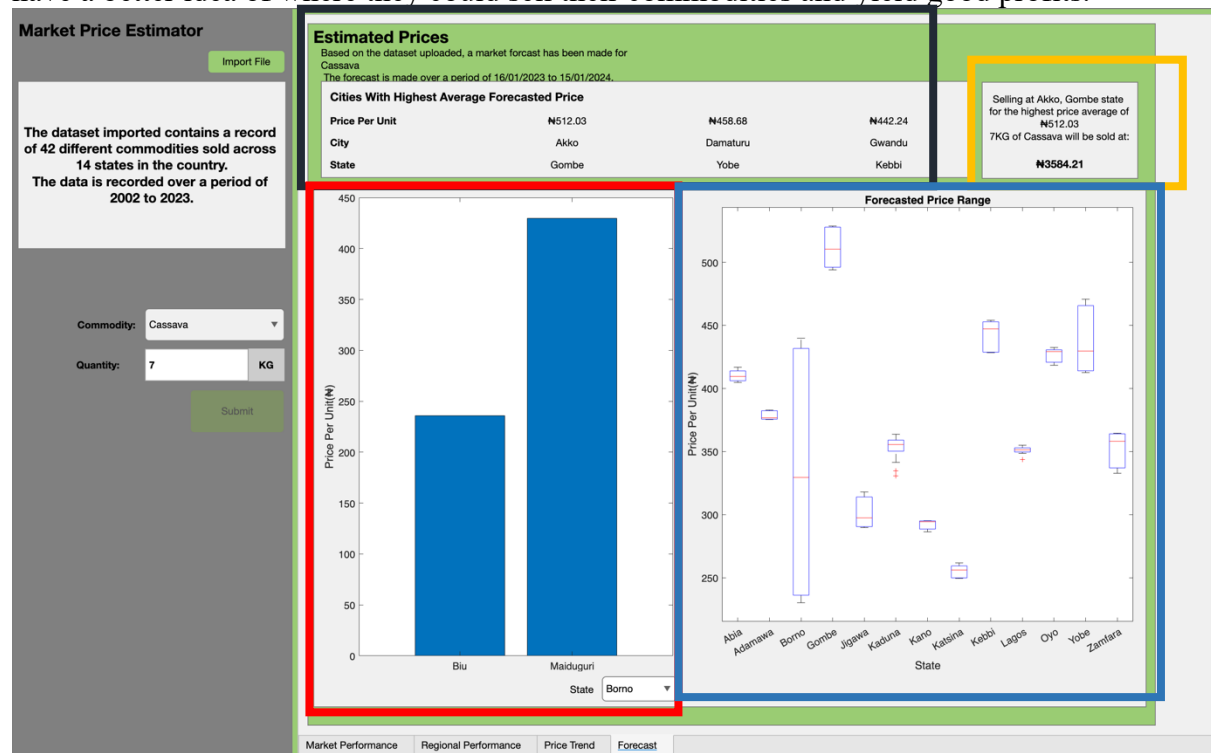
**Price Trend Menu Bar**

This gives you insight into the price trend across the years for the chosen commodity for each state. It provides you with the option to select your desired state and study the price trend.



- This displays the price trend of the chosen commodity across the years for the selected state. Option to select state located at the bottom right corner.

- This gives insight into how the price of the chosen commodity varies per month.

**Forecast Menu Bar**

This is where you get the estimated price of the chosen commodity. It lets you see the top states with the highest average forecasted prices; this information would help farmers have a better idea of where they could sell their commodities and yield good profits.



- This displays the cities and states with the highest estimated price.

- This singles out the state with the highest estimated price and gives the price at which the quantity you selected would sell. That is, if you selected 7 KG as the quantity, it'll display the price of 1 KG, then display the price at which 7 KG would sell.

- This shows the cities with the highest average forecasted price within a state. This would help a farmer decide the best market to sell his products and yield good profits.

- This boxplot shows the estimated prices for each of the states, with the red bar indicating the average estimated price.