The dashboard incorporates a series of thoughtfully designed visualizations to provide multi-dimensional insights into the car dataset. Starting with the histogram, it presents the overall distribution of car prices by grouping them into price bins, which helps users quickly understand how car prices are spread across the market. This is complemented by a linked bar chart that breaks down the average price per brand within each price bin, offering deeper insight into brand-level pricing dynamics. This dual setup allows users to see not only how prices are distributed but also which brands stand out in specific price ranges—revealing potential value buys or luxury outliers.

A heatmap is used to visualize the correlation coefficients among numerical features such as price, mileage, engine size, and year. With darker shades indicating stronger correlations, it provides a quick way to identify which features most influence the price—laying the groundwork for more detailed visual analysis.

To further explore these relationships, an interactive scatter plot lets users toggle between Mileage and Engine Size on the x-axis, showing their correlation with Price. This visualization is dynamic and supports user interactivity with tooltips and filtering options, helping users narrow down their search based on Brand or Budget. Notably, it reveals high-value anomalies such as the 2023 Audi A3, which stands out as the priciest model, offering insights into brand and model-specific pricing behaviors.

A side-by-side box plot compares car prices across Fuel Types—Petrol, Diesel, Hybrid, and Electric. This chart highlights key summary statistics like mean, range, and outliers. It reveals that although all fuel types have a similar minimum price, electric cars tend to have the highest average price, aligning with their advanced technology. The similarity in price distribution between electric and hybrid cars is also evident, reflecting their overlapping features.

Lastly, a treemap maps out the frequency of different car brands and models in the dataset. By size and color intensity, it shows which models dominate (e.g., Honda Accord and Ford Fiesta) and which are underrepresented (Mercedes C-Class, Honda CR-V), making it easy to spot the most and least common vehicles in the market.

Link for our published website: <https://bellachin.github.io/DS4200-Project/>