Analyzing DC's Bikeshare Usage Patterns

Bikesharing has emerged as a sustainable mode of urban transit, especially in pedestrian-friendly cities like Washington, D.C. As metropolitan cities like Washington, DC, these systems offer a seamless solution to the challenges of heavy traffic and carbon footprints, let alone a very budget-friendly alternative. With summer being a peak tourist season, it is essential to understand the bikeshare usage patterns during this time.

SMART Question:

What are the significant predictors that determine the duration of a bike ride in Washington, DC during the summer of 2023? Are different factors more influential for members compared to casual riders? What are some hotspots for bikeshare usage?

Data Source:

The dataset has been extracted from the official bikeshare record for the year 2023. It encompasses various attributes such as ride ID, bike type, starting and ending times, geo-coordinates of the start and end stations, and the type of rider (member or casual).

GitHub Repository Link: Here

Intended Modeling Methods:

Linear Regression: To pinpoint the continuous variables affecting the duration of rides.
Decision Tree Regression: To understand how categorical variables, like rider type and bike type, influence ride duration.