USED CARS PRICE ESTIMATION IN KENYA

PROJECT INTRODUCTION

The project will be primarily based on predicting prices of used cars in Kenya both locally and foreignly owned, based on a car's features.

PROBLEM STATEMENT

When it comes to selling or buying a car in Kenya , pricing is one of the major factors to consider both for a buyer and a car dealer as it always represents the value of the car in its present state. However it becomes especially hard to be competitive in the market while still being able to squeeze enough margins from a sale to sustain a business in the ever changing Kenyan automotive market even more so now in the wake of the Covid-19 pandemic.

Beneficiaries of this study

Used car sellers (yard owners|dealers): This is the biggest group who stand a chance to benefit from this analysis. If they understand better what makes a car more desirable in the Kenyan market they are able to use this information to best choose the cars to import or purchase from local sellers. With this knowledge they are able to improve their rate of stock turnover and reduce the inventory costs as well as other costs(cost of depreciation, insurance costs) associated with vehicles being in the yard for a longer period.

Online markets for vehicles : Much as they may have prediction models for estimating whether a price is fair or not , they could also benefit from a more accurate model. In addition those without a more robust prediction model are able to consider adopting this model for better service delivery. On top of this with an ever changing model with increase in data they are able to keep up with changes in the market.

Individual owners : This will help **local owners** to be able to estimate the amount of money their car can fetch in its present state and price them competitively to attract buyers.

KEY DATA FEATURES

Category	Key data features	Description
Car Manufacturer details	Make	Eg Toyota, Honda , Suzuki
	Model	Specifies the car ie Hillux, Prado, Fit
	Transmission	Automatic, Semi Auto, Manual, etc
	Fuel Type	Diesel or Petrol, or Hybrid or pure EV
	Year of Manufacture	
	Color	
Market information	Sellers Price	Quoted price by the sellers
	Current Mileage	Self descriptive
	Review	Number of reviews received if there is
	Use details	Used in Kenya of Foreign or Brand New
	Location	Where the seller is located within the country

DATA SOURCE

Source	Link	Collection method
Car Details	https://www.cheki.co.ke/cars	Web Scraping
Fuel Economy	https://www.fueleconomy.gov/feg/download.shtml	Downloading Data

MACHINE LEARNING TECHNIQUES TO BE IMPLEMENTED

This is a supervised learning problem where we are fitting a model of dependent variables to the independent variable price :

- Linear models;
    - lasso regression
    - Ridge
- Tree based models;
    Random Forest

PROJECT RESULTS COMMUNICATION AND NEXT STEPS

Develop a dashboard of the results to help interested parties understand the car market in Kenya .

Develop a model and deploy via flask to facilitate price estimate based on features of the vehicle