The **vehicle price prediction** model produces an estimated retail value of a second-hand vehicles.

R^2 score = 0.95 ; RMSE = R72 572

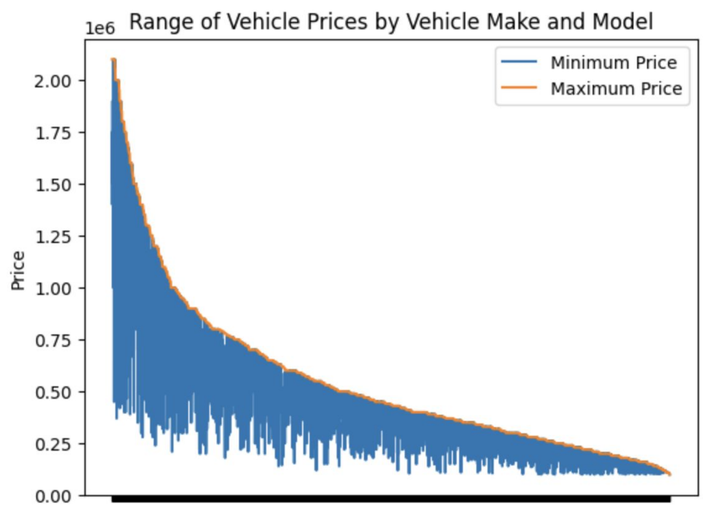
Automated Vehicle Valuation Model using Linear Regression

INTRO

1. Data Science is applied to study the factors impacting car dealership business.
2. Up to date information is required for new market entrants and ownership changes.
3. Prompt action and reaction to market changes is needed

METHODS

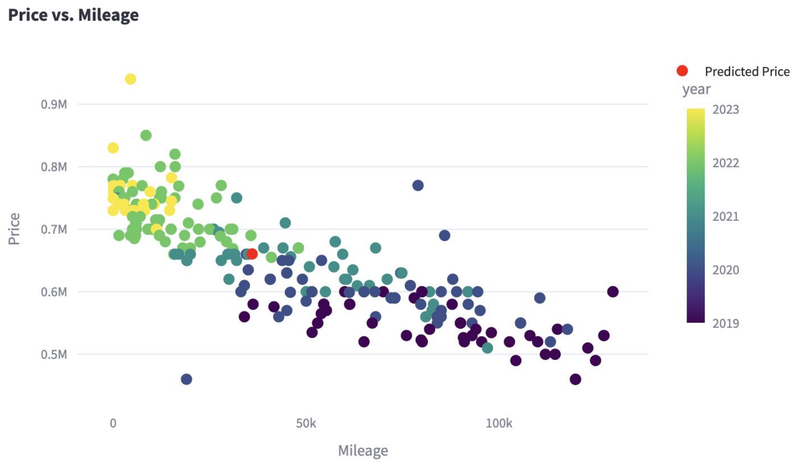
1. Scraped data from Autotrader
2. Cleaned the data to remove the vehicles out of range or with irrelevant features
3. Categorical data was encoded.
4. Used regression modelling to predict the prices based on make, year model, mileage, and transmission type.
5. Ridge and Linear regression were compared



RESULTS

Model	Root Mean Squared Error (RMSE)	R-squared (R2)	Mean Squared Error (MSE)
Linear Regression	72 571.98	0.95	5266692674
Ridge Regression	74 184.21	0.94	5503297415

Field Name	Coefficient
new	53521.87802
year	33729.53983
mileage	-0.961317
automatic	31912.21234



PRODUCTION TOOL

Streamlit was used to create an interactive web application that takes input and returns the estimated value. The Streamlit application displays the comparison between the same vehicle on Autotrader

REMARKS

Car Dealer need not manually browse through the car selling websites. Having a tool that will assist in estimating the vehicle price will save valuable time.

Data Science Techniques can be applied for them to study the market and have a view of all the information they need on one screen.

They are able to react to the market changes as supply and demand difference effect the price

M^2 Matthew and Mabel

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Capstone Project - MIT 808

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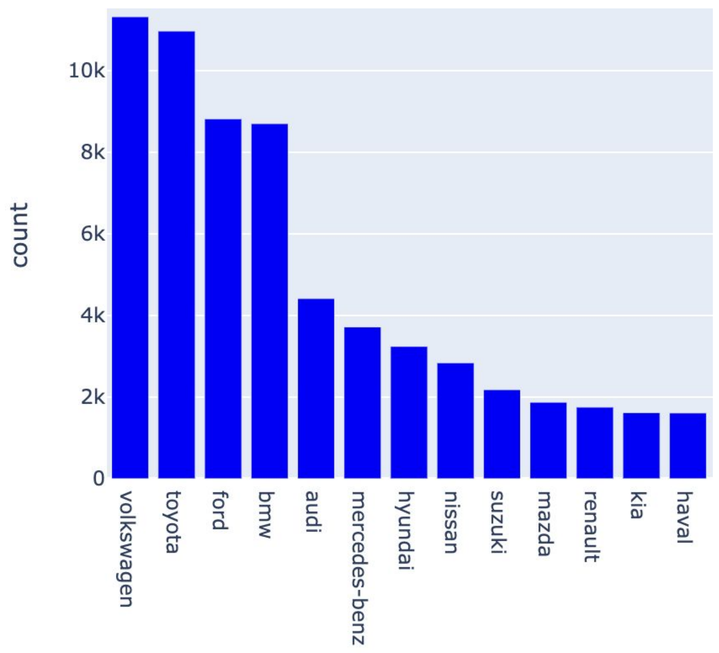
Data Overload

Create Order



Generate Insights

Estimated Vehicle Price	Average Vehicle Price	Vehicle Count
R 641 850	R 648 426	232

Average Vehicle Mileage	Average Vehicle Year
45 921	2021

R 649 900

Fair Price

2022 Ford Ranger 2.0Bi-Turbo Do...

Used Car | 35 221 km | Automatic

GYS PITZER MOTORS

Wonderboom South, Pretoria

km from you?