Laptop Price Predictor

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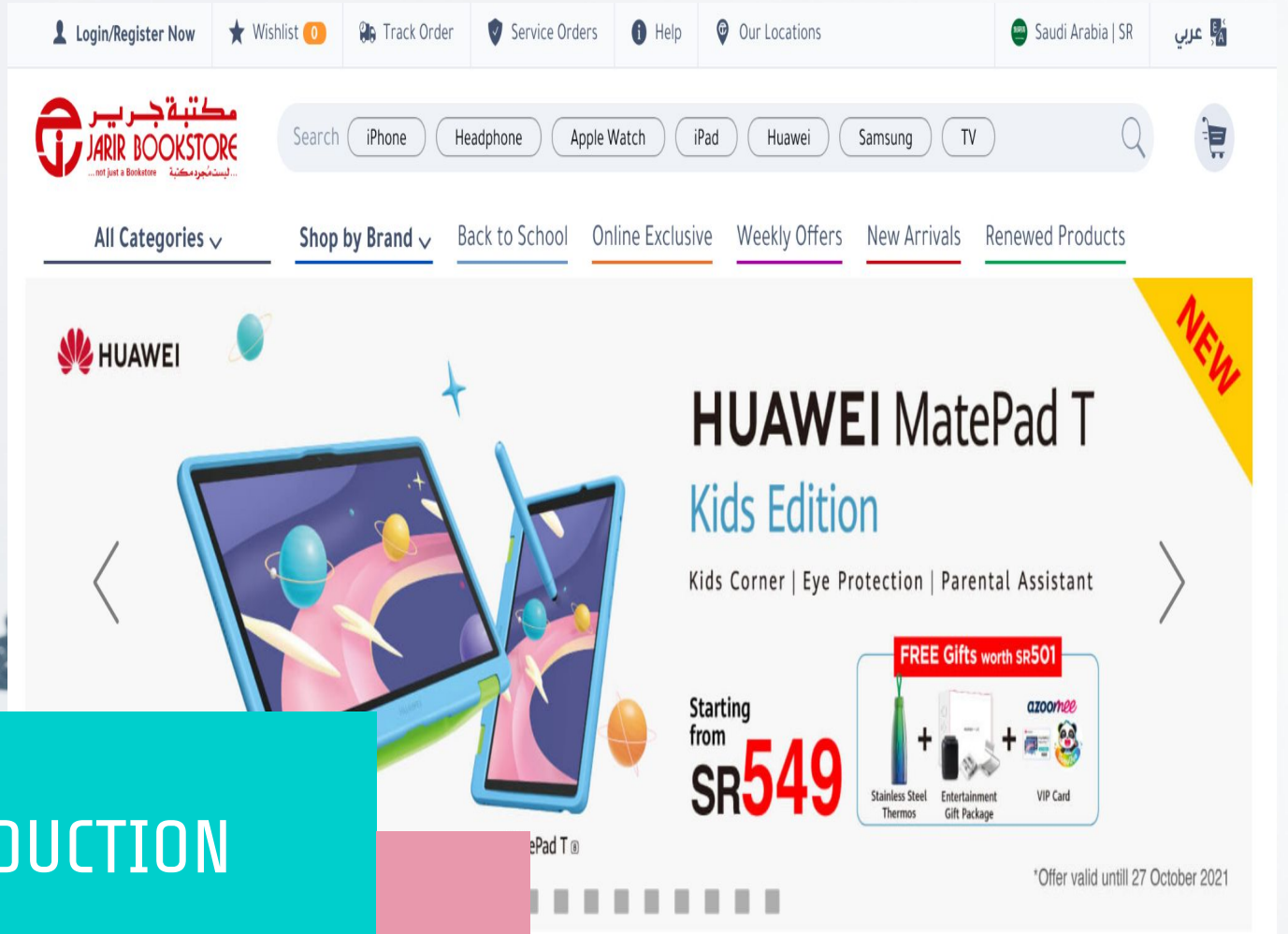
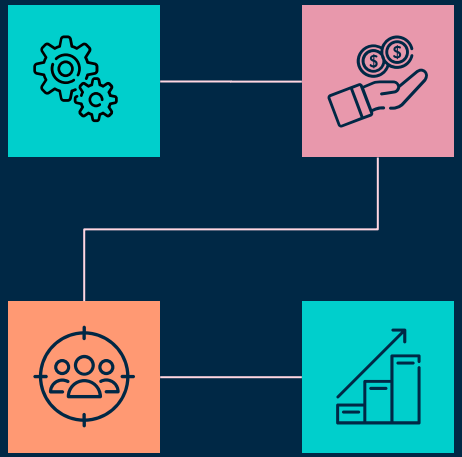
CONTENTS

INTRODUCTION



AIMS AND OBJECTIVES

Perform web scraping on Jarir website

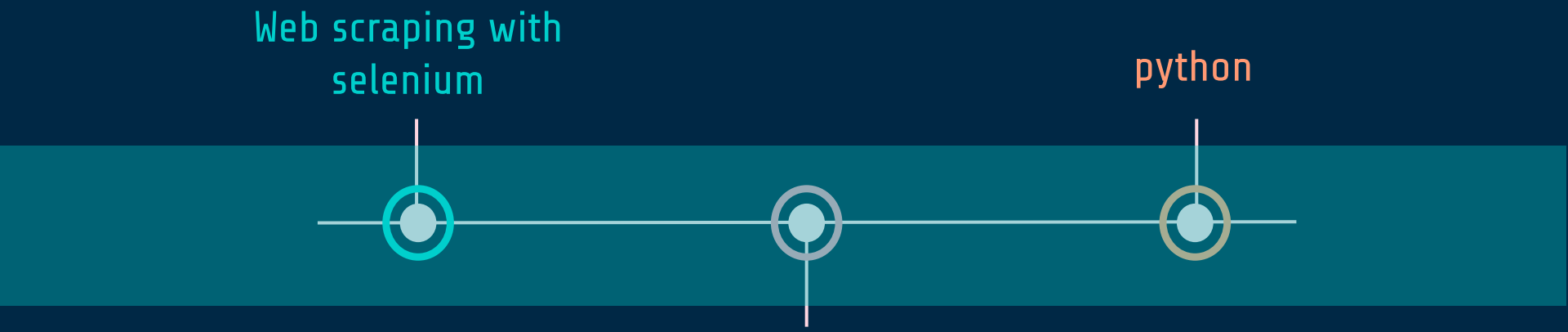


Create a dataset from the scraped data and perform EDA on it

See if our validation score close to the test and reach the goal of generalization

Choose the Best regression model for our data by comparing scores

Tools


Web scraping with selenium
python
Pandas, matplotlib,numpy,statsmodels and sklearn libraries

Workflow

Dataset and Methods

Laptop Dataset

	Acer	Apple	Asus	Chuwi	Dell	Fujitsu	Google	HP	Huawei	LG	...	768.1	900	1080	1200	1440.1	1504	1600.1	1800	1824	2160.1
0	0	1	0	0	0	0	0	0	0	0	...	0	0	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	0	0	0	0	...	0	1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	1	0	0	...	0	0	1	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	1	0	0
4	0	1	0	0	0	0	0	0	0	0	...	0	0	0	0	0	0	1	0	0	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1003	0	0	0	0	0	0	0	1	0	0	...	1	0	0	0	0	0	0	0	0	0
1004	0	0	0	0	0	0	0	0	0	0	...	0	0	1	0	0	0	0	0	0	0
1005	0	0	0	0	0	0	0	1	0	0	...	1	0	0	0	0	0	0	0	0	0
1006	0	0	0	0	0	0	0	1	0	0	...	0	0	1	0	0	0	0	0	0	0
1007	0	0	0	0	0	0	0	1	0	0	...	0	0	1	0	0	0	0	0	0	0

1008 rows × 99 columns

- After cleaning the data we transform the categorical features into dummies
- We have 99 columns and 1008 rows
- Basic features: Company,TypeName,Inches,Screen Resolution,Cpu,Ram,Memory,Gpu,OpSys,Weight
- Target is price

Method 1

We split our data into Train/Validation/Test

First Model

Simple Linear Regression

01

Second Model

Polynomial Regression Model

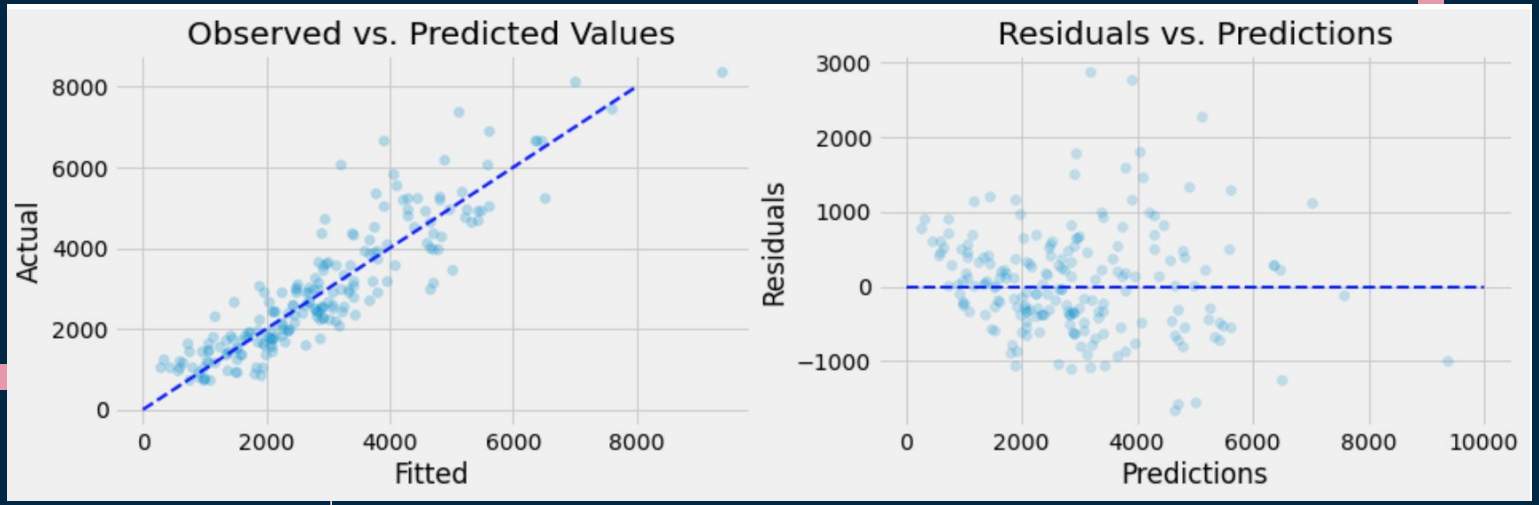
02

Third Model

Ridge Regression

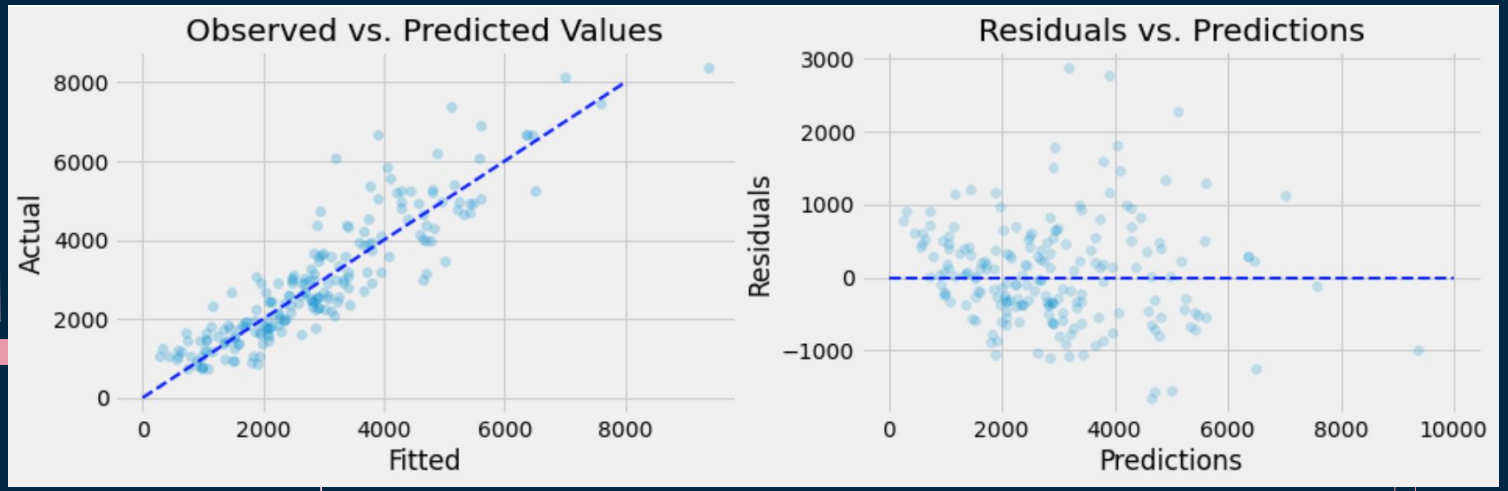
03

First Model: Simple Linear Regression



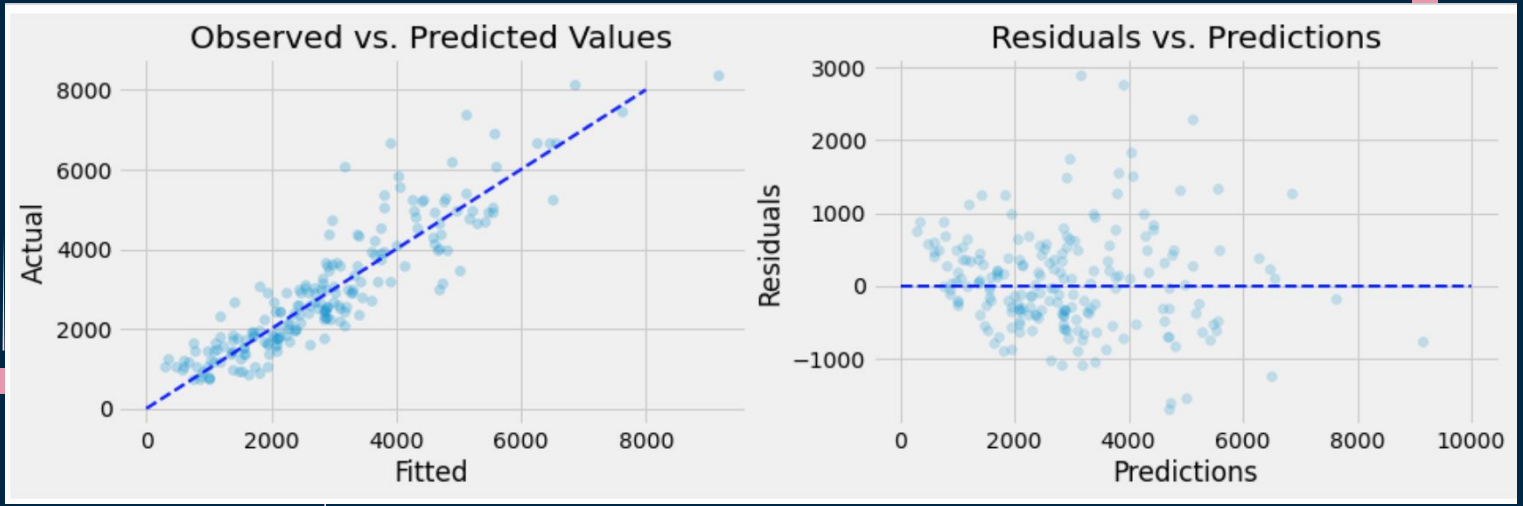
R^2= 0.8098

Second Model: polynomial Regression Model



R^2= 0.8098

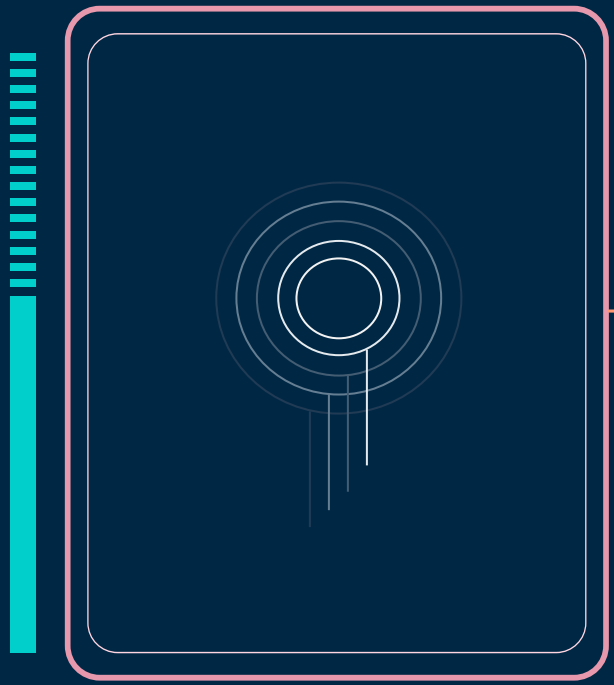
Third Model: Ridge Regression



R^2= 0.8137

Best Model

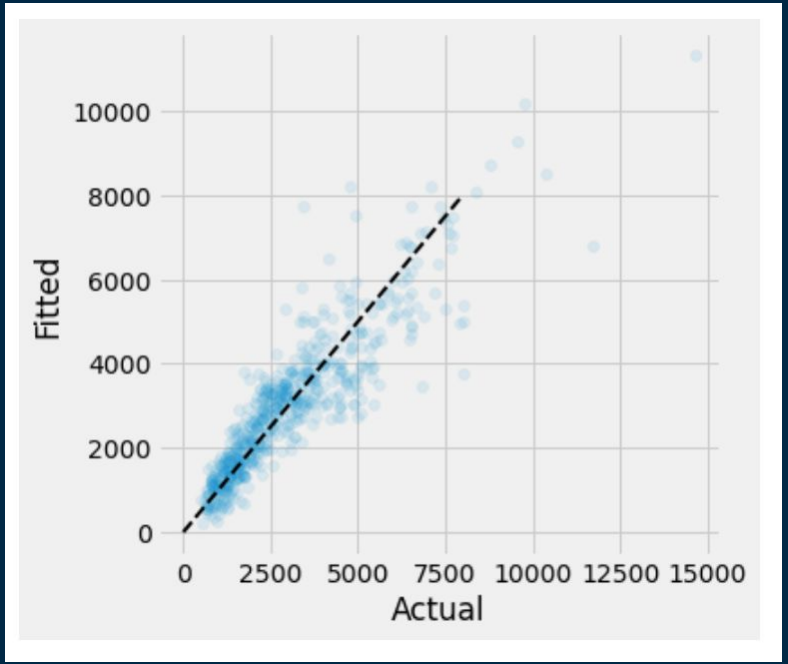
- We find the best model is Ridge Model , which is has validation score = 0.8137
- The test score is equal 0.8024
- So, there is no overfit



Method 2

Cross Validation/Test

We split our data into train validate and test, we choose to perform the cross validation on our data to make sure to have the best result



Linear Reg Mean Score: 0.709745

CONCLUSION

- Ridge Regression Model is the best model to represent our data
- The R score of the test data is 0.80

THANKS