Machine Learning Documentation

Dataset - Numeric info

#	Column	Non-Null Count Dtype
RangeIndex: 13580 entries, 0 to 13579		
Data columns (total 21 columns):		
00	Suburb	13580 non-null object
01	Address	13580 non-null object
02	Rooms	13580 non-null int64
03	Туре	13580 non-null object
04	Price	13580 non-null float64
05	Method	13580 non-null object
06	SellerG	13580 non-null object
07	Date	13580 non-null object
08	Distance	13580 non-null float64
09	Postcode	13580 non-null float64
10	Bedroom2	13580 non-null float64
11	Bathroom	13580 non-null float64
12	Car	13518 non-null float64
13	Landsize	13580 non-null float64
14	BuildingArea	7130 non-null float64
15	YearBuilt	8205 non-null float64
16	CouncilArea	12211 non-null object
17	Lattitude	13580 non-null float64
18	Longtitude	13580 non-null float64
19	Regionname	13580 non-null object
20	Propertycount	13580 non-null float64

dtypes: float64(12), int64(1), object(8)

memory usage: 2.2+ MB

Dataset name : Melbourne Housing

Training data: 10814

Testing data: 2704

Numeric Regression Comparison

	KNN	Logistic Regression
MAE	142,499.1804997887	172,953.1034871587
MSE	38,828,957,242.78912	48,856,264,964.51134
\mathbb{R}^2	0.7999329109588743	0.7482669789004716

Image Classification Comparison

	KNN	Logistic Regression
Accuracy	0.8589	0.8538
Loss	0.20878811613789466	0.4028998395555939
Confusio n Matrix	Confusion Matrix 0 - 874	Confusion Matrix 0 - 818
Precision	0.8613943216647832	0.8517173505898177
Recall	0.8589	0.8538
ROC AUC Graph	Multiclass ROC Curve (KNN Classification) 1.0 0.8 0.8	Multiclass ROC Curve (Logistic Regression) 1.0 0.8 Class 0 (AUC = 0.98) Class 1 (AUC = 1.00) Class 2 (AUC = 0.97) Class 3 (AUC = 0.97) Class 3 (AUC = 0.99) Class 4 (AUC = 0.98) Class 6 (AUC = 0.98)

Dataset name : Fashion MNIST

Number of Classes: 10

Dimensions (Columns without the label) : $28 \times 28 \rightarrow 784$

Number of Rows : $(70,000 \text{ total}) \rightarrow 60,000 \text{ for } \underline{\text{training}} \mid 10,000 \text{ for } \underline{\text{testing}}$