

การใช้งานโปรแกรม ScikitGUI

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การเตรียมข้อมูล (Data Preparation)

Data Preparation

Data Visualization

Train the Model

Make Predictions

Select Data Source

Select csv File

C:/WorkOfTongashi/Code/Python/ScikitGUI/backup/Sc

1. เลือกไฟล์ csv

Select

Open

2. เปิดไฟล์ csv

Data Source

Miles_per_Gallon

Cylinders

Origin

Weight_in_lbs

Displacement

>>

<<

Display Selected Fields

Clean Selected Fields

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 406 entries, 0 to 405

Data columns (total 9 columns):

#	Column	Non-Null Count	Dtype
0	Miles_per_Gallon	398 non-null	float64
1	Cylinders	406 non-null	int64
2	Origin	406 non-null	object
3	Weight_in_lbs	406 non-null	int64
4	Displacement	406 non-null	float64
5	Acceleration	406 non-null	float64
6	Name	406 non-null	object
7	Year	406 non-null	object
8	Horsepower	400 non-null	float64

dtypes: float64(4), int64(2), object(3)

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Select

Open

Data Source

Miles_per_Gallon

Cylinders

Origin

Acceleration

Name

>>

<<

Weight_in_lbs

Displacement

4. นำเข้าสำหรับเตรียมประมวลผล

Display Selected Fields

Clean Selected Fields

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 406 entries, 0 to 405

Data columns (total 9 columns):

#	Column	Non-Null Count	Dtype
0	Miles_per_Gallon	398 non-null	float64
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6	Name	406 non-null	object
7	Year	406 non-null	object
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dtypes: float64(4), int64(2), object(3)

Data Preparation

Data Visualization

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Select Data Source

Select csv File

C:/WorkOfTongashi/Code/Python/ScikitGUI/backup/Sc

Select

Open

Data Source

Miles_per_Gallon

Cylinders

Origin

5. แสดงข้อมูล

Year

>>

<<

Weight_in_lbs

Displacement

Acceleration

Display Selected Fields

Clean Selected Fields

6. ปรับข้อมูลให้พร้อมการประมวลผล

Weight_in_lbs	Displacement	Acceleration
3504.0	307.0	12.0
3693.0	350.0	11.5
3436.0	318.0	11.0
3433.0	304.0	12.0
3449.0	302.0	10.5
4341.0	429.0	10.0
4354.0	454.0	9.0
4312.0	440.0	8.5
4425.0	455.0	10.0
3850.0	390.0	8.5
3090.0	133.0	17.5
4142.0	350.0	11.5
4034.0	351.0	11.0
4166.0	383.0	10.5

การแสดงผลข้อมูล (Data Visualization)

Data Preparation

Data Visualization

Train the Model

Make Predictions

Data Set

Miles_per_Gallon

Cylinders

Origin

Name

Year

>>

<<

Weight_in_lbs

Displacement

Acceleration

2. นำเข้าสำหรับเตรียมการแสดงผล

Select

3. เลือกรูปแบบ

ParallelCoords

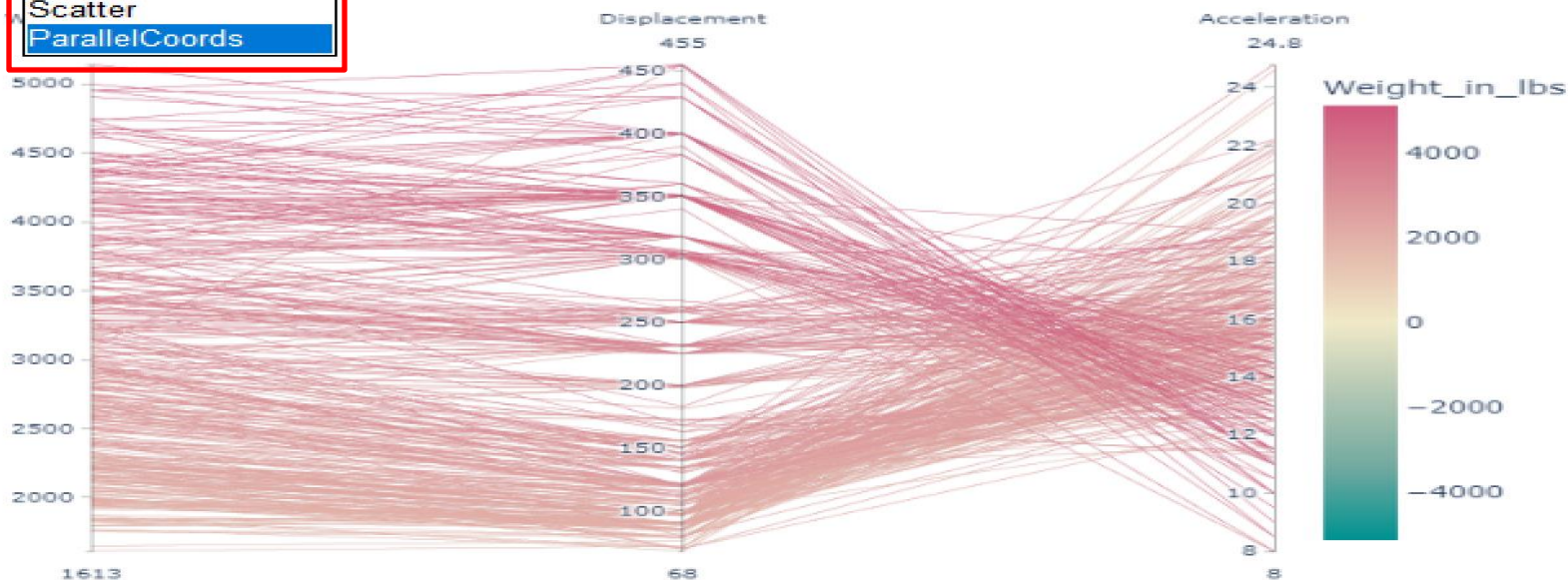
Histogram

Scatter

ParallelCoords

Display Chart

4. แสดงผลข้อมูล



Data Preparation

Data Visualization

Train the Model

Make Predictions

Data Set

Miles_per_Gallon
Cylinders
Origin
Name
Year

>>

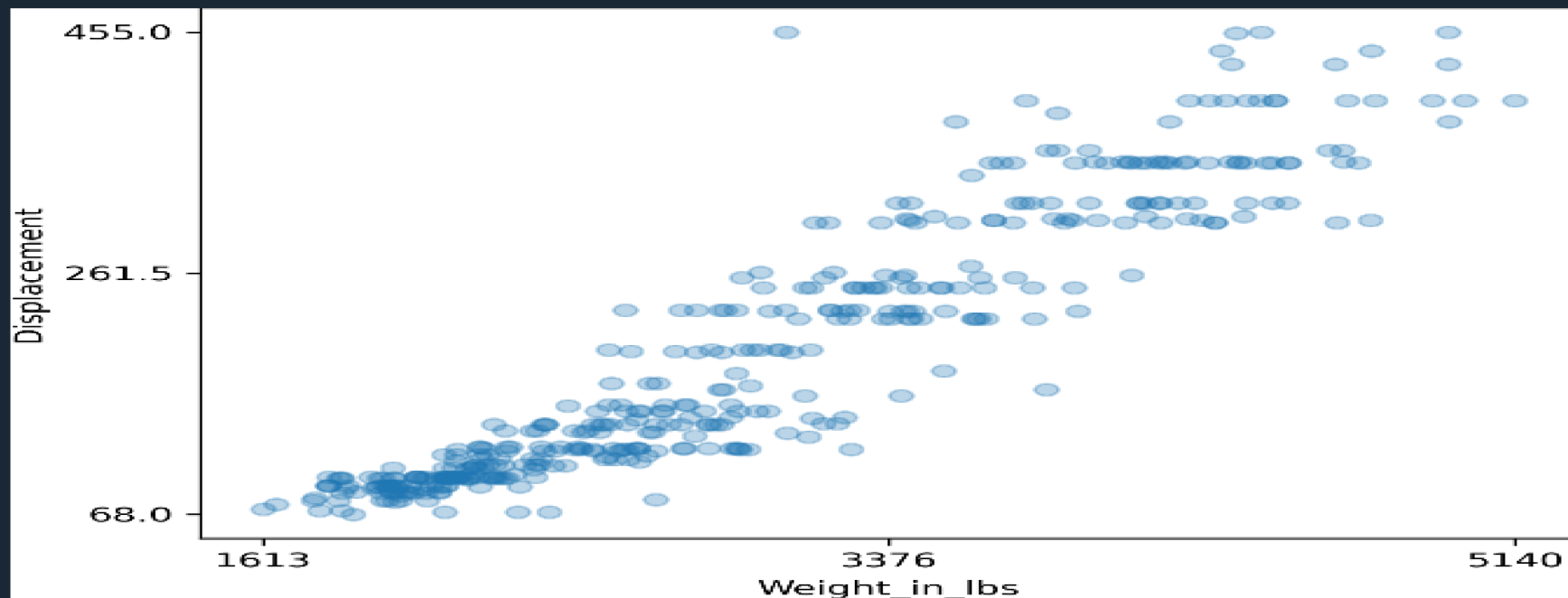
<<

Weight_in_lbs
Displacement
Acceleration

Select

Scatter

Display Chart



Status : Display chart success

การสร้างแบบจำลอง
(Train the Model)

CS-ScikitGUI

Data Preparation | Data Visualization | Train the Model | Make Predictions

Select Data

Miles_per_Gallon
Cylinders
Origin
Name
Year

1. เลือก field

>>

Weight_in_lbs
Displacement
Acceleration

2. นำเข้าสำหรับเตรียมการ Train model

Select Model

Approaches Regression

3. เลือกเทคนิคการ Train model

Algorithm

4. เลือก Algorithm

LinearRegression
PolynomialRegression

5. ปรับแต่งค่า

Tune parameters

6. Train model

Train Model

Configuration

```
{ "amountOfTrainingDataSet": "100", "amountOfTestingDataSet": "100", "degree": "3", "displayChart": "1" }
```

Result

```
Coefficients: [ 0.00000000e+00 -4.60388407e-01 1.79921475e-04 -1.79053322e-08 ]  
Mean squared error: 1308.011179428097  
Coefficient of determination: 0.8808907333461216

7. เลือกสถานที่เก็บ model



Select



8. บันทึก model



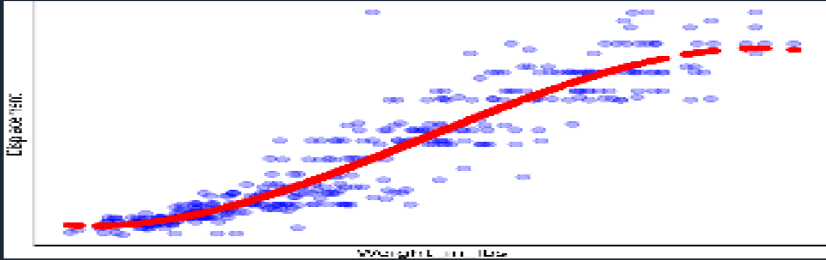
Save Model



Displacement



Weight in lbs


```

Data Preparation

Data Visualization

Train the Model

Make Predictions

Select Data

Miles_per_Gallon
Cylinders
Name
Horsepower
Origin

>>

<<

Weight_in_lbs
Displacement
Acceleration

Select Model

Approaches

Clustering

Algorithm

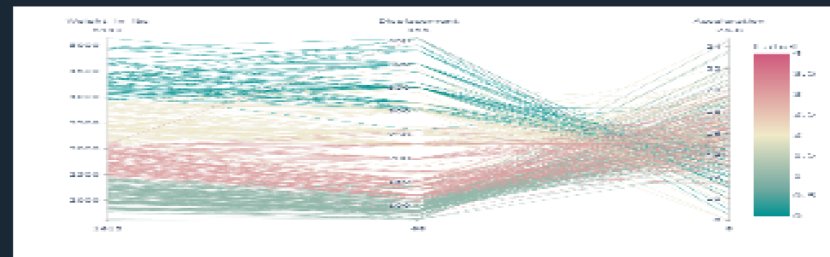
KMeans
MeanShift

Tune parameters

Train Model

Configuration

```
{"amountOfTrainingDataSet": "100", "amountOfTestingDataSet": "100", "n_clusters": "4", "displayChart": "1"}
```



Result

Accuracy: 1.0

Confusion Matrix

```
[[ 72   0   0   0]
 [  0 142   0   0]
```

Select

Save Model

Data Preparation

Data Visualization

Train the Model

Make Predictions

Select Data

Miles_per_Gallon
Cylinders
Name
Horsepower
Origin

>>

<<

Weight_in_lbs
Displacement
Acceleration
Year

Select Model

Approaches

Classification

Algorithm

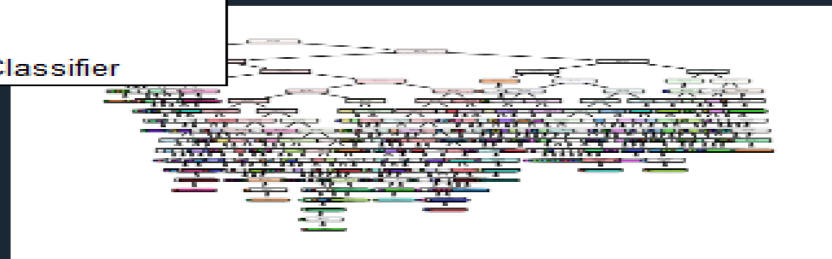
DecisionTree
NeuralNetwork
SVM
NaiveBayes
KNeighborsClassifier

Tune parameters

Train Model

Configuration

```
{"amountOfTrainingDataSet": "100", "amountOfTestingDataSet": "100", "displayChart": "1"}
```



Result

Accuracy: 0.9950738916256158

Confusion Matrix

```
[[ 35  0  0  0  0  0  0  0  0  0  0  0  0]
 [  1 28  0  0  0  0  0  0  0  0  0  0]]
```

Select

Save Model

Data Preparation

Data Visualization

Train the Model

Make Predictions

Select Data

Miles_per_Gallon
Cylinders
Name
Year
Horsepower

>>

<<

Weight_in_lbs
Displacement
Acceleration
Origin

Select Model

Approaches

Classification

Algorithm

KNeighborsClassifier

Tune parameters

Train Model

Configuration

```
{"amountOfTrainingDataSet": "100", "amountOfTestingDataSet": "100", "n_neighbors": 1, "displayChart": "1"}
```

DecisionTree
NeuralNetwork
SVM
NaiveBayes
KNeighborsClassifier



Result

Accuracy: 0.8226600985221675

Confusion Matrix

```
[[ 55  10   8]
 [ 14  53  12]
```

Select

Save Model

การทำนาย
(Prediction)

ผลลัพธ์จากการ Save model

ไฟล์ Model



ไฟล์ตัวอย่างสำหรับใช้ทำนายผล



คำอธิบาย Model



File Edit Format View Help

Weight_in_lbs

3504.0

3693.0

แก้ไขไฟล์โดยเพิ่มค่าที่ต้องการทำนาย => 5000.0

Data Preparation

Data Visualization

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Make Predictions

Select model

C:/WorkOfTongashi/Code/Python/ScikitGUI/backup/Sc

Select

Select csv data

C:/WorkOfTongashi/Code/Python/ScikitGUI/backup/Sc

Select

☒ Polynomial

Degree

3

Predict

3. ทำนายผล

1. เลือกไฟล์ model

2. เลือกไฟล์ที่ต้องการใช้ทำนาย

Result

```
[1.00000000e+00 3.50400000e+03 1.22780160e+07 4.30221681e+10] => 259.66718164740485  
[1.00000000e+00 3.69300000e+03 1.36382490e+07 5.03660536e+10] => 285.89419149829985  
[1.00e+00 5.00e+03 2.50e+07 1.25e+11] => 392.04394145327785
```