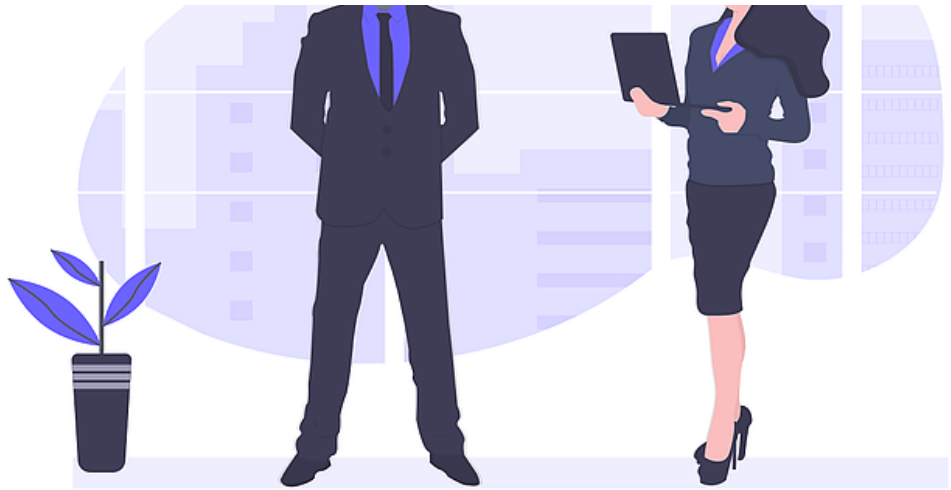
Oct 21, 2019

Machine Learning Algorithms- Fit and predict train and test data

Hi,
In this post, we will learn how machine learning algorithm work, here we go through basic concepts of all the machine learning algorithms and how to fit and predict train and test data in machine learning.



Machine Learning Algorithms- Fit and predict train and test data

Types of ML Algorithms:

ML Algorithms divided into three categories -

1. Supervised Learning
2. Unsupervised Learning
3. Reinforcement Learning

Supervised Learning

- Regression,
- Decision Tree,
- Random Forest,
- KNN,
- Logistic Regression, etc.

Unsupervised Learning

This algorithm work without having any target or outcome variable to predict. It is used for the clustering population in different groups, which is used for segmenting customers in different groups.

Types of Unsupervised Learning

- Apriori algorithm,
- K-means

Reinforcement Learning

This algorithm used from past experience and tries to capture the best possible knowledge to find accurate decisions.

Types of Reinforcement Learning

```
# importing required libraries

import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error
```

```
''' For more visit

https://www.codersarts.com

'''


import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error

# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data

```

```
''' For more visit
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'''


import pandas as pd
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score


# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data


```

Decision Tree

```
from sklearn.metrics import accuracy_score


# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data


```

SVM (Support Vector Machine)

```
from sklearn.svm import SVC
from sklearn.metrics import accuracy_score

from sklearn.metrics import mean_squared_error

# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data

```

Naive Bayes

```
from sklearn.metrics import accuracy_score

# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data


train_x = train_data.drop(columns=['Sales_item'],axis=1)
```

KNN (k- Nearest Neighbors)

```
from sklearn.metrics import accuracy_score

# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data


train_x = train_data.drop(columns=['Sales_item'],axis=1)
```

K-Means

```
from sklearn.metrics import mean_squared_error

# read the train and test dataset

train_data = pd.read_csv('train_data.csv')
test_data = pd.read_csv('test_data.csv')

print(train_data.head())

# shape of the dataset

print('\nShape of training data :',train_data.shape)
print('\nShape of testing data :',test_data.shape)

# Predict the missing target variable in the test data


train_x = train_data.drop(columns=['Sales_item'],axis=1)
```

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