Spyder (Python 3.8)

File Edit Search Source Run Debug Consoles Projects Tools View Help

D:\AI Programs

D:\AI Programs\training.py

perceptron.py | training.py

```
1  import numpy as np
2  from perceptron import Perceptron
3
4  training_inputs=[]
5  training_inputs.append(np.array([1,1]))
6  training_inputs.append(np.array([0,1]))
7  training_inputs.append(np.array([1,0]))
8  training_inputs.append(np.array([0,0]))
9
10 lables=np.array([1,0,0,0])
11 perceptron=Perceptron(2)
12 perceptron.train(training_inputs,lables)
13 inputs= np.array([0,1])
14 print(perceptron.pridict(inputs))
15
16
```

D:\AI Programs\perceptron.py

perceptron.py | training.py

```
2
3  class Perceptron(object):
4      def __init__(self,no_of_inputs,threshold=100,learning_rate=100):
5          self.threshold=threshold
6          self.learning_rate=learning_rate
7          self.weights=np.zeros(no_of_inputs+1)
8
9      def pridict(self,inputs):
10         summation=np.dot(inputs,self.weights[1:])+self.weights[0]   #'''w.x=b'''
11         if summation>0:
12             activation=1
13         else:
14             activation=0
15         return activation
16     def train(self,training_inputs,lables):
17         for _ in range(self.threshold):
18             for inputs,lable in zip(training_inputs,lables):
19                 pridiction = self.pridict(inputs)
20                 self.weights[1:]+=self.learning_rate*(lable-pridiction)*inputs
21                 self.weights[0]+=self.learning_rate*(lable-pridiction)
22
```

Source Console Object

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

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Variable explorer | Help | Plots | Files

Console 1/A

```
In [27]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
1

In [28]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
1

In [29]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [30]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [31]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [32]:
```

IPython console | History

LSP Python: ready | Kite: ready | conda: base (Python 3.8.3) | Line 1, Col 1 | UTF-8 | CRLF | RW | Mem 61%

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ENG 18:47 09-08-2020

Spyder (Python 3.8)

File Edit Search Source Run Debug Consoles Projects Tools View Help

D:\AI Programs

D:\AI Programs\training.py

perceptron.py | training.py

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9
10 lables=np.array([1,0,0,0])
11 perceptron=Perceptron(2)
12 perceptron.train(training_inputs,lables)
13 inputs= np.array([0,0])
14 print(perceptron.pridict(inputs))
15
16
```

D:\AI Programs\perceptron.py

perceptron.py | training.py

```
2
3  class Perceptron(object):
4      def __init__(self,no_of_inputs,threshold=5,learning_rate=10000):
5          self.threshold=threshold
6          self.learning_rate=learning_rate
7          self.weights=np.zeros(no_of_inputs+1)
8
9      def pridict(self,inputs):
10         summation=np.dot(inputs,self.weights[1:])+self.weights[0]   #'''w.x=b'''
11         if summation>0:
12             activation=1
13         else:
14             activation=0
15         return activation
16     def train(self,training_inputs,lables):
17         for _ in range(self.threshold):
18             for inputs,lable in zip(training_inputs,lables):
19                 pridiction = self.pridict(inputs)
20                 self.weights[1:]+=self.learning_rate*(lable-pridiction)*inputs
21                 self.weights[0]+=self.learning_rate*(lable-pridiction)
22
```

Source Console Object

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Variable explorer | Help | Plots | Files

Console 3/A

```
In [6]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
1

In [7]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [8]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [9]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [10]:
```

IPython console | History

LSP Python: ready | Kite: ready | conda: base (Python 3.8.3) | Line 14, Col 20 | ASCII | CRLF | RW | Mem 60%

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ENG 18:51 09-08-2020

Spyder (Python 3.8)

File Edit Search Source Run Debug Consoles Projects Tools View Help

D:\AI Programs

D:\AI Programs\training.py

perceptron.py | training.py

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10 lables=np.array([1,0,0,0])
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12 perceptron.train(training_inputs,lables)
13 inputs= np.array([1,1])
14 print(perceptron.pridict(inputs))
15
16
```

D:\AI Programs\perceptron.py

perceptron.py | training.py

```
2
3  class Perceptron(object):
4      def __init__(self,no_of_inputs,threshold=100,learning_rate=0.1):
5          self.threshold=threshold
6          self.learning_rate=learning_rate
7          self.weights=np.zeros(no_of_inputs+1)
8
9      def pridict(self,inputs):
10         summation=np.dot(inputs,self.weights[1:])+self.weights[0]   #'''w.x=b'''
11         if summation>0:
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13         else:
14             activation=0
15         return activation
16     def train(self,training_inputs,lables):
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18             for inputs,lable in zip(training_inputs,lables):
19                 pridiction = self.pridict(inputs)
20                 self.weights[1:]+=self.learning_rate*(lable-pridiction)*inputs
21                 self.weights[0]+=self.learning_rate*(lable-pridiction)
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Source Console Object

Usage

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Console 3/A

```
In [10]: runfile('D:/AI Programs/perceptron.py', wdir='D:/AI Programs')
Reloaded modules: perceptron

In [11]: runfile('D:/AI Programs/perceptron.py', wdir='D:/AI Programs')

In [12]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
0

In [13]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [14]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
0

In [15]: runfile('D:/AI Programs/training.py', wdir='D:/AI Programs')
Reloaded modules: perceptron
1

In [16]:
```

IPython console | History

LSP Python: ready | Kite: ready | conda: base (Python 3.8.3) | Line 13, Col 22 | ASCII | CRLF | RW | Mem 60%

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