activation_function

July 25, 2020

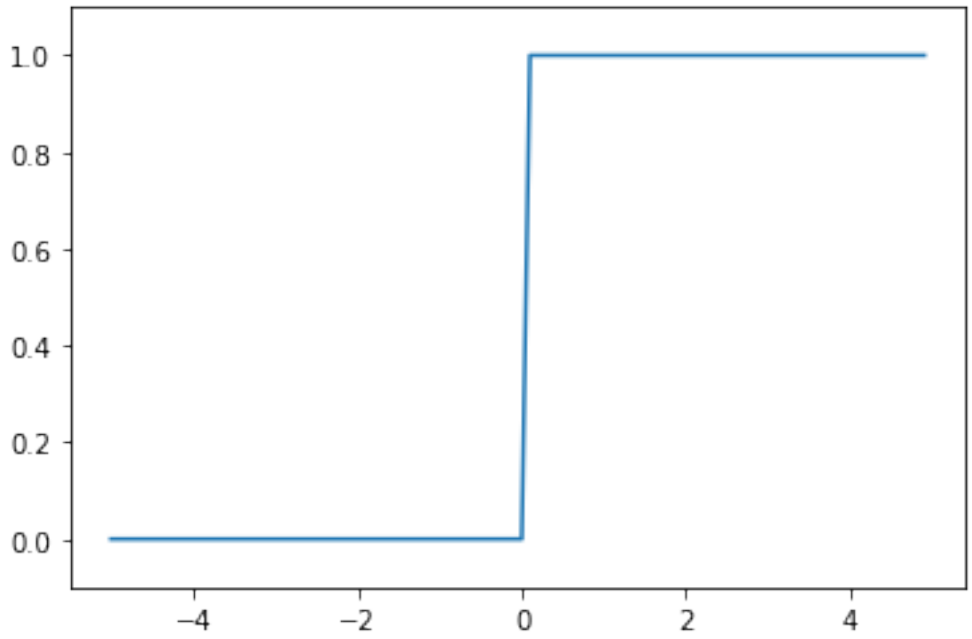
[1]:
```
import numpy as np
import matplotlib.pylab as plt
```

[2]:
```
def step_function(x):
  return np.array(x > 0, dtype=np.int)
```

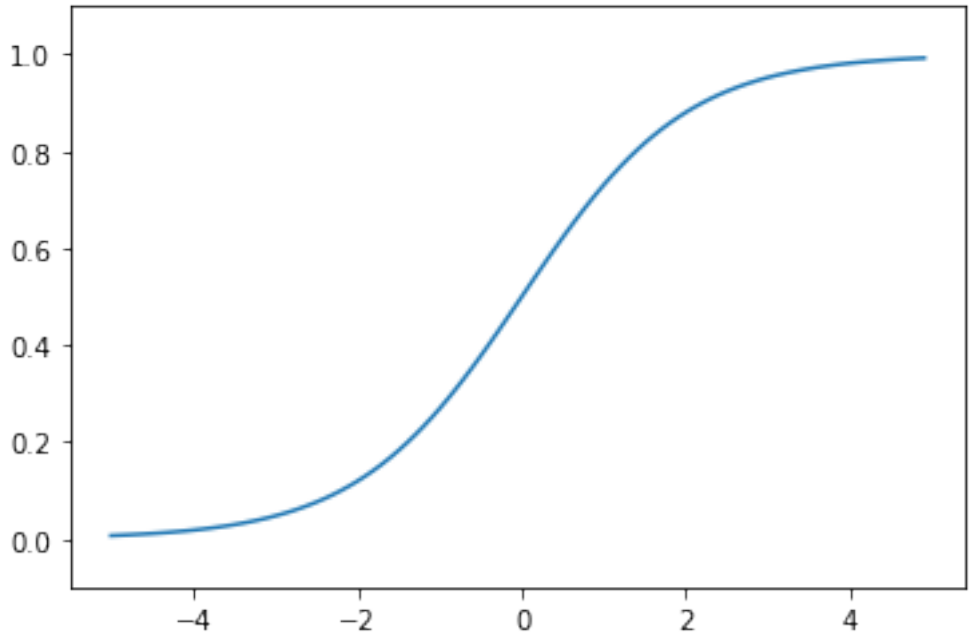
[3]:
```
def sigmoid(x):
  return 1/(1 + np.exp(-x))
```

[4]:
```
def relu(x):
  return np.maximum(0, x)
```

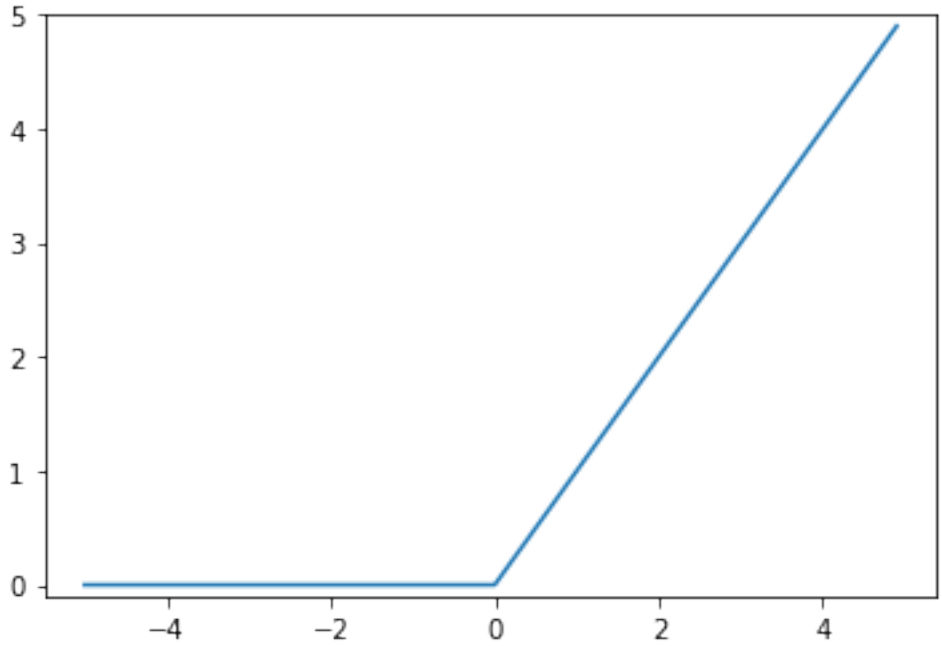
[5]:
```
x = np.arange(-5.0, 5.0, 0.1)
y = step_function(x)
plt.plot(x, y)
plt.ylim(-0.1, 1.1)
plt.show()
```



[6]:
```
x = np.arange(-5.0, 5.0, 0.1)
y = sigmoid(x)
plt.plot(x, y)
plt.ylim(-0.1, 1.1)
plt.show()
```



[7]:
```
x = np.arange(-5.0, 5.0, 0.1)
y = relu(x)
plt.plot(x, y)
plt.ylim(-0.1, 5)
plt.show()
```


5
4
3
2
1
0
−4
−2
0
2
4