

How can I add a row to a matrix in NumPy?

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Adding a row to a matrix in NumPy is a simple process that can be done using the `numpy.append()` function. This function takes in the original matrix as well as the new row to be added and returns a new matrix with the added row. The new row must have the same number of columns as the original matrix. Below are some examples:

Example 1:

Original matrix:

,
,
]

New row:

New matrix:

1
,
,
,
,

Example 2:

Original matrix:

1,

New row:

New matrix:

1,1

In summary, adding a row to a matrix in NumPy is a straightforward process using the `numpy.append()` function, making it convenient for data manipulation in scientific computing and data analysis.

Add Row to Matrix in NumPy (With Examples)

You can use the following syntax to add a row to a matrix in NumPy:

```
#add new_row to current_matrix  
current_matrix = np.vstack()
```

You can also use the following syntax to only add rows to a matrix that meet a certain condition:

```
#only add rows where first element is less than 10  
current_matrix = np.vstack((current_matrix, new_rows <  
10]))
```

The following examples shows how to use this syntax in practice.

Example 1: Add Row to Matrix in NumPy

The following code shows how to add a new row to a matrix in NumPy:

```
import numpy as np  
  
#define matrix  
current_matrix = np.array(, , ])  
  
#define row to add  
new_row = np.array()
```

```
#add new row to matrix
current_matrix = np.vstack()

#view updated matrix
current_matrix

array(
,
,
])
```

Notice that the last row has been successfully added to the matrix.

Example 2: Add Rows to Matrix Based on Condition

The following code shows how to add several new rows to an existing matrix based on a specific condition:

```
import numpy as np

#define matrix
current_matrix = np.array(, , ])

#define potential new rows to add
new_rows = np.array(, , ])
```

#only add rows where first element in row is less than 10

```
current_matrix = np.vstack((current_matrix, new_rows < 10]))
```

#view updated matrix

```
current_matrix
```

```
array(
```

```
,
```

```
,
```

```
,
```

```
])
```

Only the rows where the first element in the row was less than 10 were added.

Note: You can find the complete online documentation for the `vstack()` function .

Additional Resources

The following tutorials explain how to perform other common operations in NumPy: