

How can I plot a normal distribution in Seaborn, and what are some examples of doing so?

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Seaborn is a popular data visualization library in Python that offers a variety of powerful tools for creating informative and visually appealing graphs. One of the most commonly used plots in data analysis is the normal distribution, also known as the Gaussian distribution. Plotting a normal distribution in Seaborn is a simple and straightforward task that can provide valuable insights into the underlying data.

To plot a normal distribution in Seaborn, the first step is to import the library and the necessary dependencies. Then, the data can be loaded into a Pandas DataFrame, and the distribution can be visualized using the "distplot" function with the "norm" parameter. This will generate a histogram with a smooth curve representing the normal distribution.

Some examples of using this technique include visualizing the distribution of test scores among students, analyzing the sales data of a product, or examining the distribution of a stock's returns. By plotting the normal distribution, one can easily identify the mean, standard deviation, and skewness of the data, which can provide valuable insights for further analysis.

In summary, plotting a normal distribution in Seaborn is a useful and efficient way to gain a better understanding of the underlying data and identify any patterns or anomalies. It is a valuable tool for data analysts, researchers, and anyone looking to visualize and analyze data.

Plot a Normal Distribution in Seaborn (With Examples)

You can use the following methods to plot a normal distribution with the data visualization library in Python:

Method 1: Plot Normal Distribution Histogram

`sns.displot(x)`

Method 2: Plot Normal Distribution Curve

`sns.displot(x, kind='kde')`

Method 3: Plot Normal Distribution Histogram with Curve

`sns.displot(x, kde=True)`

The following examples show how to use each method in practice.

Example 1: Plot a Normal Distribution Histogram

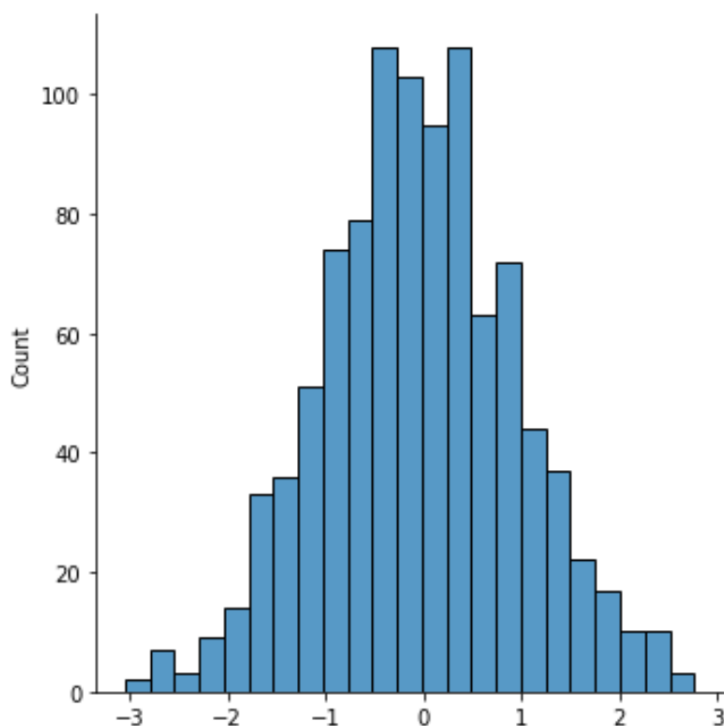
The following code shows how to plot a normal distribution histogram in seaborn:

```
import numpy as np
import seaborn as sns

#make this example reproducible
np.random.seed(0)

#create data
x = np.random.normal(size=1000)

#create normal distribution histogram
sns.displot(x)
```



Example 2: Plot a Normal Distribution Curve

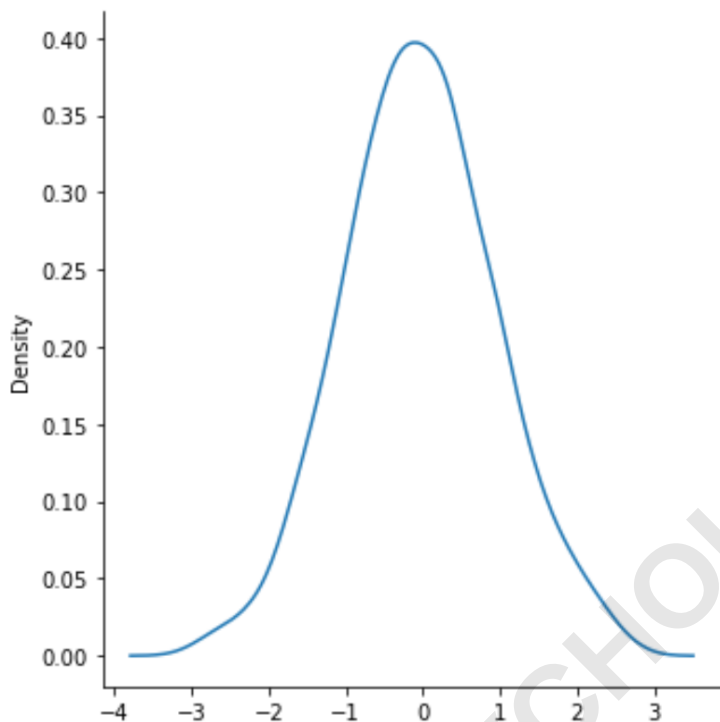
The following code shows how to plot a normal distribution curve in seaborn:

```
import numpy as np
import seaborn as sns

#make this example reproducible
np.random.seed(0)

#create data
x = np.random.normal(size=1000)
```

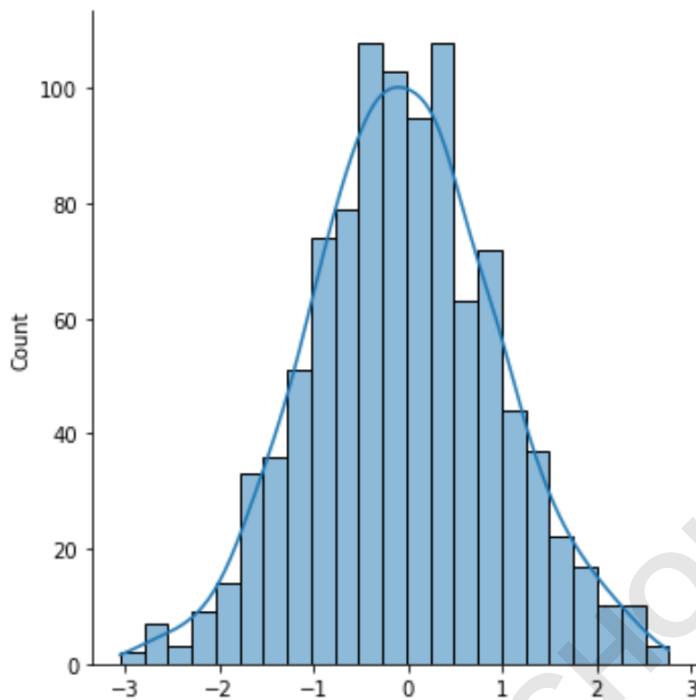
```
#create normal distribution curve  
sns.displot(x, kind='kde')
```



Example 3: Plot a Normal Distribution Histogram with Curve

```
import numpy as np  
import seaborn as sns  
  
#make this example reproducible  
np.random.seed(0)  
  
#create data  
x = np.random.normal(size=1000)
```

#create normal distribution curve
sns.displot(x, kde=True)



Additional Resources

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