

How can I create a histogram of residuals in R?

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Creating a histogram of residuals in R involves first fitting a regression model and then using the "plot" function to generate a scatter plot of the observed values against the predicted values. The "residuals" function can then be applied to the model to extract the residuals, which can then be plotted as a histogram using the "hist" function. This allows for visualizing the distribution of the model's residuals, providing insight into the model's accuracy and potential areas for improvement.

Create a Histogram of Residuals in R

One of the main is that the are normally distributed.

One way to visually check this assumption is to create a histogram of the residuals and observe whether or not the distribution follows a "bell-shape" reminiscent of the .

This tutorial provides a step-by-step example of how to create a histogram of residuals for a regression model in R.

Step 1: Create the Data

First, let's create some fake data to work with:

```
#make this example reproducible  
set.seed(0)
```

```
#create data
```

```
x1 <- rnorm(n=100, 2, 1)
```

```
x2 <- rnorm(100, 4, 3)
y <- rnorm(100, 2, 3)
data <- data.frame(x1, x2, y)
```

```
#view first six rows of data
head(data)
```

```
x1 x2 y
1 3.262954 6.3455776 -1.1371530
2 1.673767 1.6696701 -0.6886338
3 3.329799 2.1520303 5.8081615
4 3.272429 4.1397409 3.7815228
5 2.414641 0.6088427 4.3269030
6 0.460050 5.7301563 6.6721111
```

Step 2: Fit the Regression Model

Next, we'll fit a to the data:

```
#fit multiple linear regression model
model <- lm(y ~ x1 + x2, data=data)
```

Step 3: Create a Histogram of Residuals

Lastly, we'll use the ggplot visualization package to create a histogram of the residuals from the model:

```
#load ggplot2  
library(ggplot2)  
  
#create histogram of residuals  
ggplot(data = data, aes(x = model$residuals)) +  
geom_histogram(fill = 'steelblue', color = 'black') +  
labs(title = 'Histogram of Residuals', x = 'Residuals', y =  
'Frequency')
```

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