Is Normal Distribution a Continuous Probability Distribution? - Yes It is

**Introduction:**

What is a Probability?

The chance of an event likely to occur is called probability

Distribution can be classified into 2 types:

Uniform Distribution & Normal Distribution

1. Uniform Distribution(UD):

Like its name suggests the chance of an event likely to occur will be equal / uniform

Eg: While rolling a die once, the chance of getting 5 in it will be –> 1/6.

The same will be the chance for other numbers as well.

Since the probability is equal it is called Uniform Distribution

1. Normal Distribution(UD):

**Justification:**

The exact opposite of UD is Normal Distribution. The probability distribution once plotted will form a bell curve as below. This will have a spike at the middle, in ND it is assumed as;

Mean=Median=Mode=0,

Each data point is 1 unit Standard Deviation from Mean.

At the peak the chance of probability of getting the event is higher, whereas the probability will be minimum when it goes away from mean.

|  |
| --- |
| emperical-new.png |

Hence while performing probability distribution of a random continuous variable we will get a bell curve after plotting, hence it is concluded as Normal distribution is a Continuous Probability Distribution.