

**Assignment - GDA**  
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**1. GDA without box-muller**

We have taken the microchip dataset and split it into 70% training and 30% testing data.

After training the GDA model, we got an accuracy of 50% on testing data.

**2. GDA with box-muller**

We have taken the same train and test data as in the above program.

After transforming the data between 0-1 as it is a prior constraint for box-muller transform, we encounter some 0 values in the dataset. We replace that 0 with the median of that feature.

After training the GDA model, we got an accuracy of 69.3% on testing data.

So, we can clearly see that after performing box-muller transformation on the data, we get much better results.

This might be because we are transforming the data into gaussian distribution rather than raw data in the original input.

As GDA works with probability, it works better after box-muller transforms data into a multivariate normal distribution.