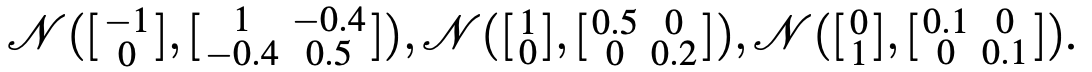
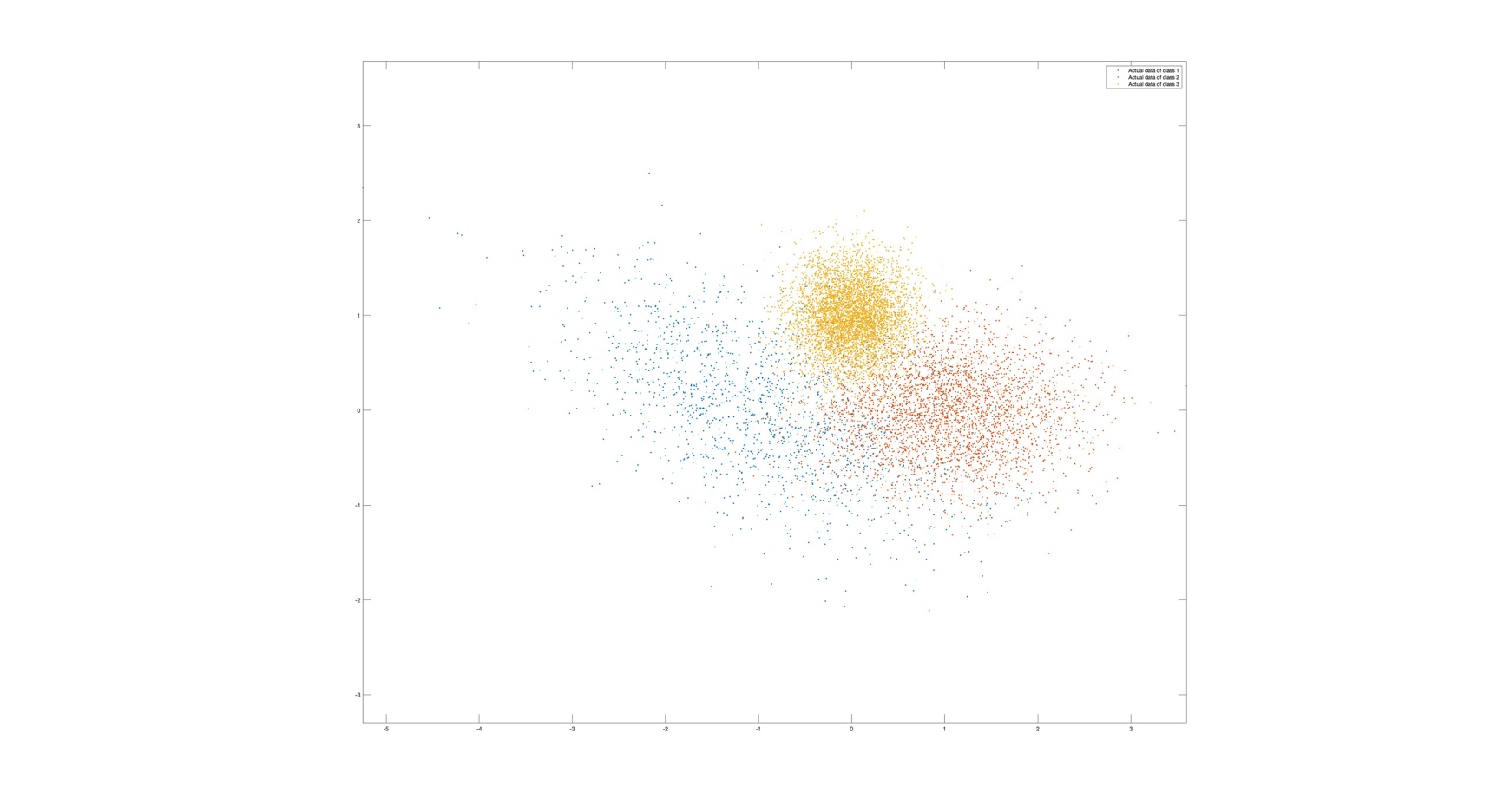
1. Three class with priors are respectively P(L=1)=0.15,P(L=2)=0.35,P(L=3)=0.5.

The data distribution are as follows

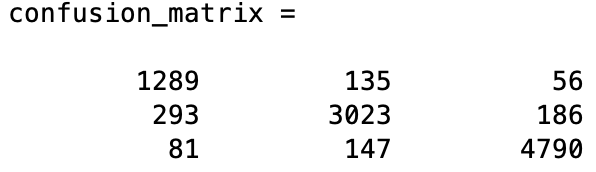




The plot shows the true data of each three classes

Receive the discriminant score for the function of the evalGaussian. Which indicate the decision as P(wi|x) is the largest of three class. Then make the decision for the data by choosing the largest discriminant score.

The confusion matrix result is as follow



Case, decision = 1, L = 1 has 1289 samples

Case, decision = 2, L = 2 has 3023 samples

Case, decision = 3, L = 3 has 4790 samples

These are the correct decisions.

Case, decision = 2, L = 1 has 135 samples. Case decision = 3, L = 1 has 56 samples.

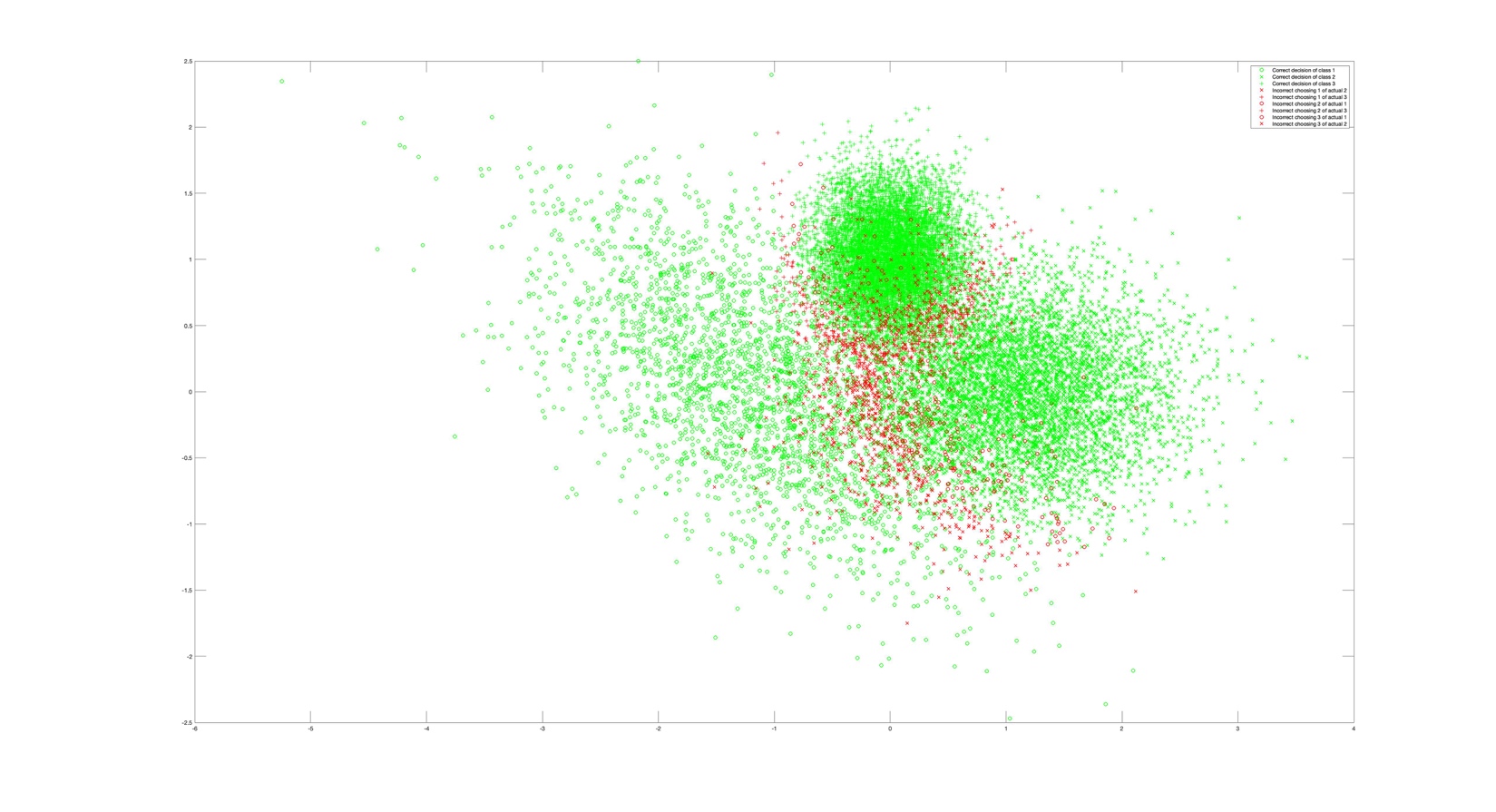
Case, decision = 1, L = 2 has 293 samples. Case decision = 3, L = 2 has 186 samples.

Case, decision = 1, L = 3 has 81 samples. Case decision = 2, L = 3 has 147 samples.

Confusion matrix shows the number of samples correct and incorrect. Where column indicate to decision class and the row indicate to actual class.

Total number of miss equal to (10000-total correct) = 10000-9102 = 898.

Thus, the error can be calculated by 898/10000 = 0.0898 = 8.98%



The plot shows every samples with shape and color indicate for the correct decision and the wrong decision.