**Homework 01: Naive Bayes’ Classifier**

I wrote the Naive Bayes Algorithm using python programming language by following the steps below.

1. I read file “**hw01\_images.csv**” using the **read\_csv\_data(filename)** method.
2. I read file **“hw01\_label.csv”**  using the **read\_label\_data(filename)** method.
3. I split the data into two as training and test data.
4. Using the **train\_label\_probability()** method, I found the percentages of the label data over the training data. (Probability Female= 0.1 Male= 0.9)
5. I received a transposition of the training data for easy reading of the code. Because; It will be more costly to read X1, x2, ..., x4096 data on a column basis and calculate the mean and standard deviation. So I took the transposition of the training data using the **transponse\_matrix ()** method.
6. Using the **probability\_table()** method, I calculated the average and standard deviation of each property.(mean1, mean2, mean3, …, mean4096; deviation1, deviation2, deviation3, …, deviation4096)
7. I used **list\_mean()** and **list\_deviation()** methods to calculate the standard deviation and the mean of the data.
8. I calculated the probability of the data to be estimated using the **probability\_log()** method.
9. I created the confusion\_matrix by calculating the probability of the data in the confusion\_matrix () method using the probability\_log () method.

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