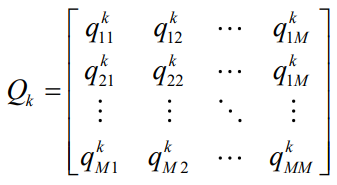
1. **Classifier integration model (CIM)**

* The classifier integration model utilizes the confusion matrix values as a weight value for constituent classifier models.
* For each data x applied to CIM, each local classifier produces the probability that the data x belongs to the class j, Cj , as follows



* where represents the probability that the classifier k, classifies the data as Class j when the data is from of Class i and M denotes the number of classes.
*  is the probability that the classifier k classifies the data as Class j
* (the probability is calculated for each class, vertically)

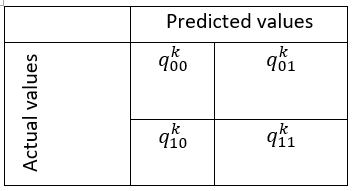
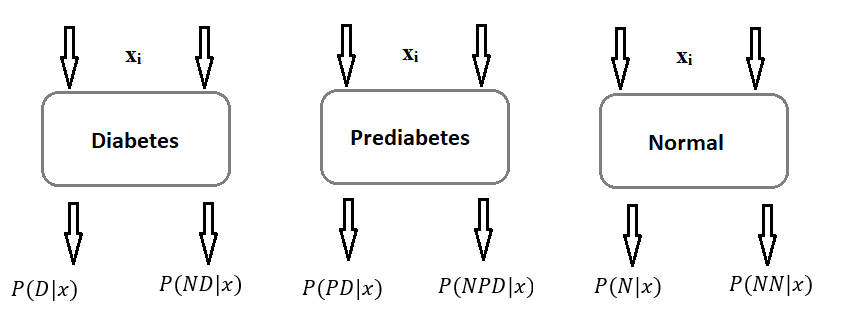


* the classifier yields a probability that the data x belongs to the class j, Cj , as follows



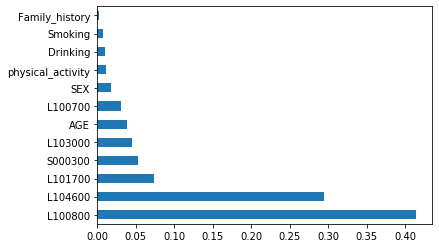
1. **Classifier integration model (CIM) for Diabetes dataset**

* we generated three distinct (ensembled) classifiers for each class (Diabetes, Prediabetes, Normal)




* +
* + [N: normal, NN: not normal, D: diabetes, ND: note diabetes, PD: prediabetes, NPD: not prediabetes]

1. Feature importance from Random forest



1. Histogram plot of HbA1C, AGE

