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Perform a complete Principal Components Analysis for this data and interpret the result.

Note: The number of PCs must be determined by a formal statistical hypothesis test, while the relationships among objects and variables can be interpreted by using a 2D plot.



Perform a complete Canonical Correlation Analysis for these two groups of variables and interpret the result.

Note: The number of canonical variates must be determined by a formal statistical hypothesis test,

while the required model assumptions need to be validated.



Construct the decision rules for classifying the types of glass using (i) Classification Tree; (ii)LDA; (iii) QDA; (v) Nearest Neighbor; and (vi) Logistic discrimination. Compare all your resulting decision rules and explain which one you will best recommend.



Based on the control of “Classification Tree” obtained in Q3, develop two decision rules by using the strategies of (i) random forest and (ii) boosting. How do these two strategies compare with the decision rules in Q3 in terms of prediction accuracy?



Construct a suitable decision rule to classify the types of wages based on the methods introduced in our class. Also, comment on the performance of your decision rule in terms of prediction accuracy.

* 附錄 (R code)

Github :

R Markdown :