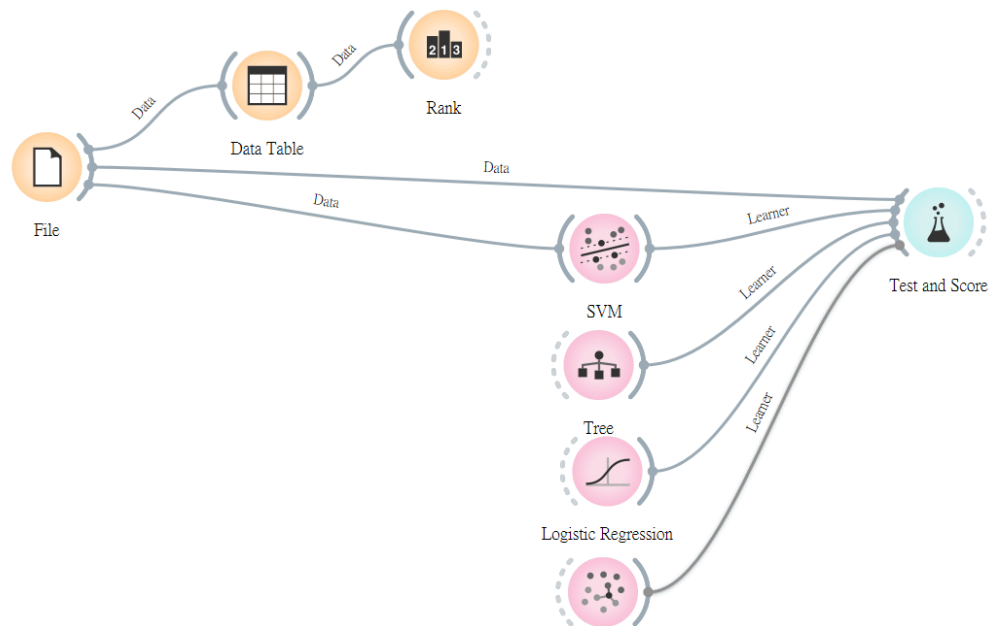
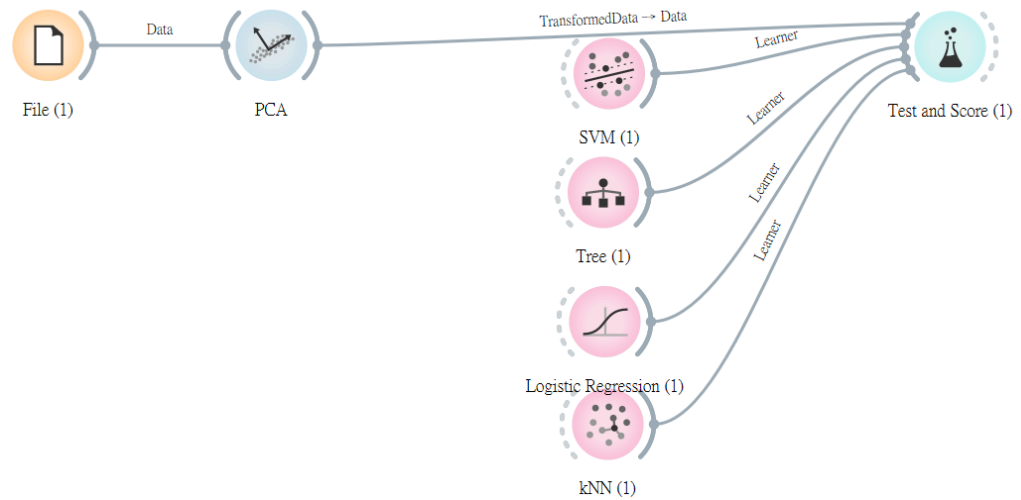


1. Workflow

a. Without PCA



b. Go through PCA



2. 參數(Without PCA以及Go through PCA的模型參數皆相同)

a. SVM

The screenshot shows the 'SVM - Orange' widget interface. It has a title bar with a question mark and a close button. Below the title bar is a menu bar with 'File', 'View', 'Window', and 'Help'. The main area contains several sections: 'Name' with a text box containing 'SVM'; 'SVM Type' with two radio buttons, 'SVM' (selected) and 'ν-SVM', and associated numerical input fields for 'Cost (C): 1.00', 'Regression loss epsilon (ε): 0.10', 'Regression cost (C): 1.00', and 'Complexity bound (ν): 0.50'; 'Kernel' with four radio buttons, 'Polynomial' (selected), and associated input fields for 'g: auto', 'c: 1.00', and 'd: 3.0'; 'Optimization Parameters' with 'Numerical tolerance: 0.0010' and a checked 'Iteration limit: 100'; and an 'Apply Automatically' checkbox which is checked. At the bottom, there is a status bar with icons and the text '1208 | - 291'.

SVM - Orange

File View Window Help

Name
SVM

SVM Type

☒ SVM Cost (C): 1.00

Regression loss epsilon (ε): 0.10

☐ ν-SVM Regression cost (C): 1.00

Complexity bound (ν): 0.50

Kernel

☐ Linear Kernel: $(g \cdot x \cdot y + c)^d$

☒ Polynomial g: auto

☐ RBF c: 1.00

☐ Sigmoid d: 3.0

Optimization Parameters

Numerical tolerance: 0.0010

☒ Iteration limit: 100

☒ Apply Automatically

1208 | - 291

b. Tree

The screenshot shows the 'Tree - Orange' widget interface. It has a title bar with a question mark and a close button. Below the title bar is a menu bar with 'File', 'View', 'Window', and 'Help'. The main area contains several sections: 'Name' with a text box containing 'Tree'; 'Parameters' with a checkbox 'Induce binary tree' (unchecked), and three checked checkboxes with numerical input fields: 'Min. number of instances in leaves: 2', 'Do not split subsets smaller than: 5', and 'Limit the maximal tree depth to: 100'; 'Classification' with a checked checkbox and a numerical input field: 'Stop when majority reaches [%]: 95'; and an 'Apply Automatically' checkbox which is checked. At the bottom, there is a status bar with icons and the text '- -'.

Tree - Orange

File View Window Help

Name
Tree

Parameters

☐ Induce binary tree

☒ Min. number of instances in leaves: 2

☒ Do not split subsets smaller than: 5

☒ Limit the maximal tree depth to: 100


Classification

☒ Stop when majority reaches [%]: 95

☒ Apply Automatically

- -

c. Logistic Regression

 Logistic Repr... ? ×

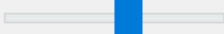
File View Window Help

Name

Logistic Regression

Regularization type: Ridge (L2) ▾





Strength:

Weak  Strong


C=1

☐ Balance class distribution

☒ Apply Automatically

≡ ?  |  -  -  -

d. kNN

 kNN - Orange ? ×

File View Window Help

Name

kNN




Neighbors

Number of neighbors: 10 ▴ ▾

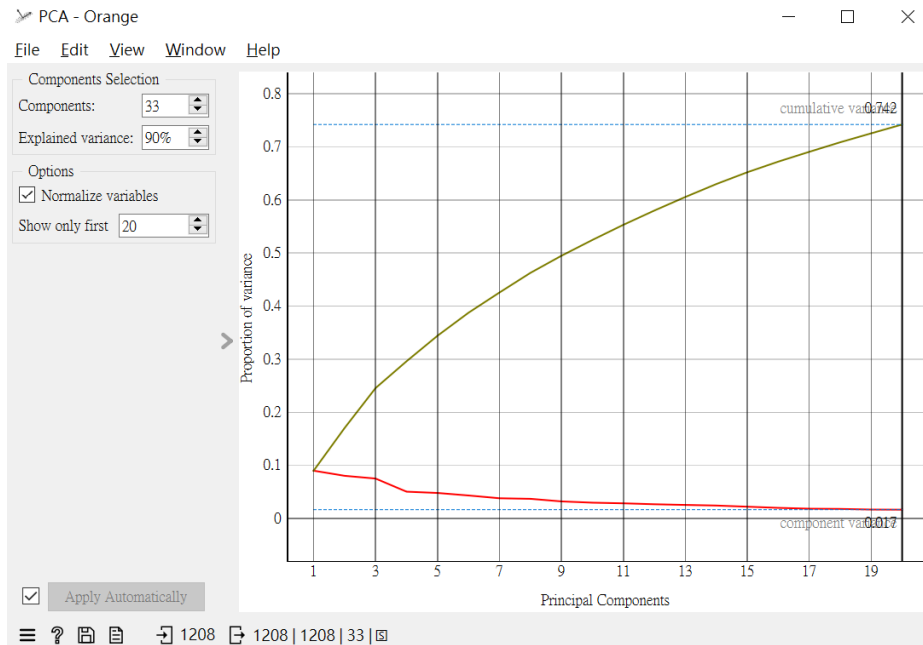
Metric: Euclidean ▾

Weight: Uniform ▾

☒ Apply Automatically

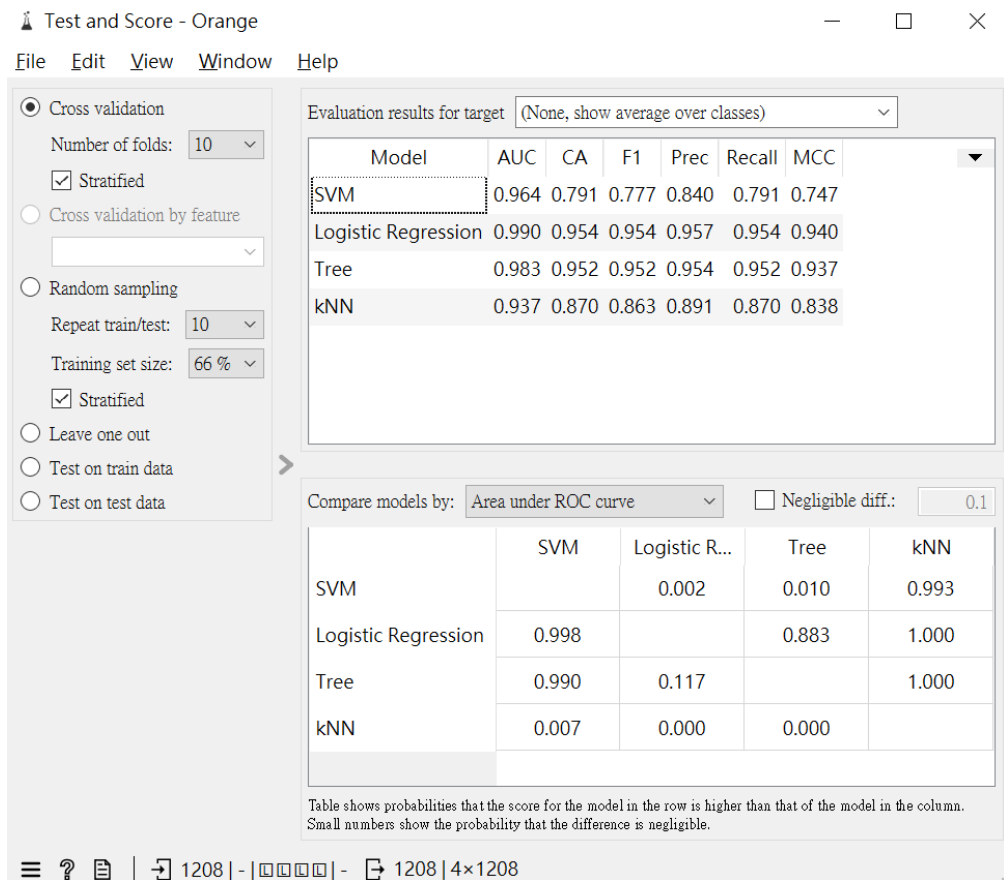
≡ ?  |   | -

3. PCA(90% explained variance, 33 principle components)

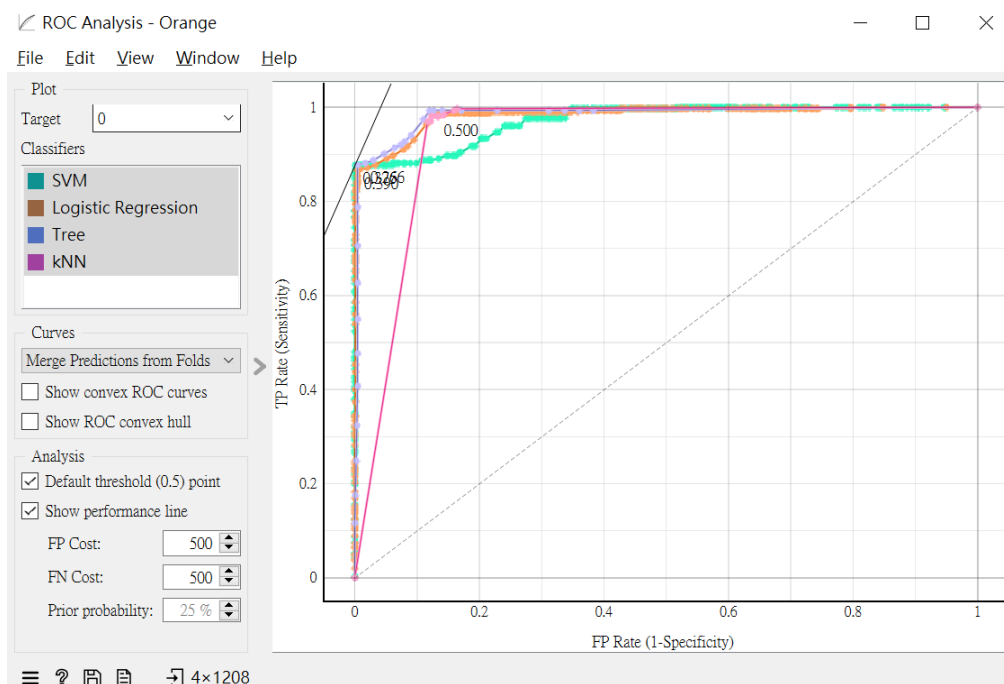


4. Result Comparison

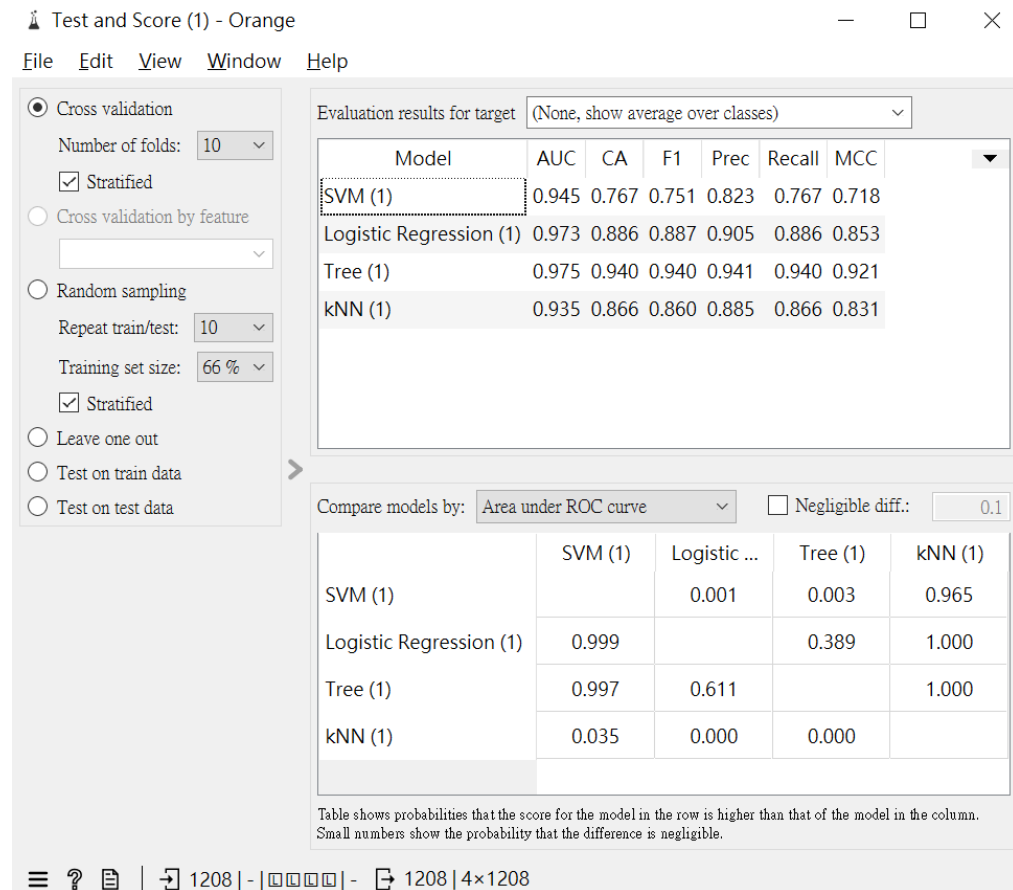
a. Without PCA



ROC analysis



b. Go through PCA



ROC analysis

