In[127]:=
```
dataPath = FileNameJoin[
    {ParentDirectory[NotebookDirectory[]], "data/dataOccupancyPreprocessed.csv"}];
```

In[128]:=
```
data = SemanticImport[dataPath, {"DateTime", "Real",
     "Real", "Real", "Real", "Real", "Boolean"}, "Dataset", HeaderLines → 1];
```

In[129]:=
```
trainData = Values@
    Normal[data[[All, {"Temperature", "Humidity", "Light", "CO2", "HumidityRatio"}]]];
```

In[130]:=
```
cluster[method_: "GaussianMixture", numberClusters_: 2,
  distanceFunction_: EuclideanDistance] := Module[{clusters, rules, classifier},
  clusters = ClusteringComponents[trainData, numberClusters, 1, Method → method,
    DistanceFunction → distanceFunction, PerformanceGoal → "Quality"];
  rules = Map[clusters[[#]] → data[[#, "Occupancy"]] &, Range[Length[data]]];
  classifier = Classify[rules, Method → Automatic];
  Return[ClassifierMeasurements[classifier, rules]];
 ]
```

In[131]:=
```
cm = cluster["KMedoids", 10, SquaredEuclideanDistance];
```

In[132]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[132]=
```
⟨|False → 0.0693532, True → 0.198035|⟩
```

In[133]:=
```
cm["Accuracy"]
```

Out[133]=
```
0.965418
```

In[134]:=
```
cm["FScore"]
```

Out[134]=
```
⟨|False → 0.977976, True → 0.919546|⟩
```

In[135]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[135]=
```
⟨|False → 0.0693532, True → 0.198035|⟩
```

In[136]:=
```
cm["Specificity"]
```

Out[136]=
```
⟨|False → 0.990167, True → 0.959247|⟩
```

In[137]:=
```
cm["Perplexity"]
```

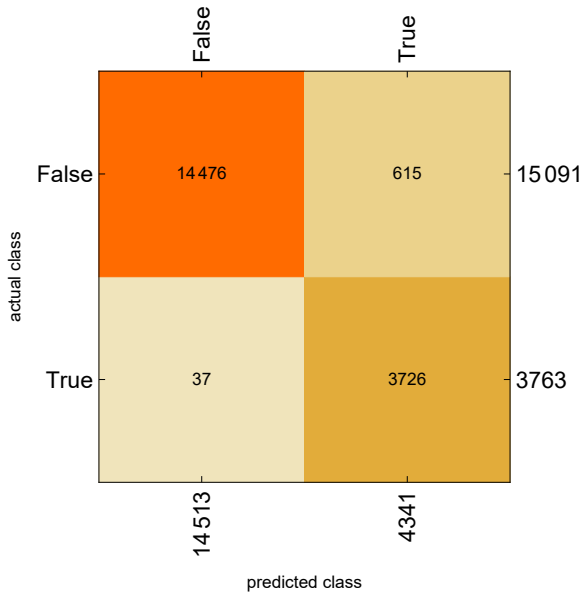
Out[137]=
```
1.0997
```

In[138]:=
```
cm["Precision"]
```

Out[138]=
```
⟨|False → 0.997451, True → 0.858328|⟩
```

In[139]:=
```
cm["ConfusionMatrixPlot"]
```

Out[139]=



In[140]:=
```
cm["ROCCurve"]
```

Out[140]=