In[99]:=
```
dataPath = FileNameJoin[
    {ParentDirectory[NotebookDirectory[]], "data/dataOccupancyPreprocessed.csv"}];
```

In[100]:=
```
data = SemanticImport[dataPath, {"DateTime", "Real",
     "Real", "Real", "Real", "Real", "Boolean"}, "Dataset", HeaderLines → 1];
```

In[101]:=
```
trainData = Values@
    Normal[data[[All, {"Temperature", "Humidity", "Light", "CO2", "HumidityRatio"}]]];
```

In[102]:=
```
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[103]:=
```
cm = cluster["KMedoids", 30, EuclideanDistance];
```

In[104]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[104]=
```
⟨| False → 0.0392915, True → 0.0732217 |⟩
```

In[105]:=
```
cm["Accuracy"]
```

Out[105]=
```
0.986793
```

In[106]:=
```
cm["FScore"]
```

Out[106]=
```
⟨| False → 0.991684, True → 0.967933 |⟩
```

In[107]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[107]=
```
⟨| False → 0.0392915, True → 0.0732217 |⟩
```

In[108]:=
```
cm["Specificity"]
```

Out[108]=
```
⟨| False → 0.998671, True → 0.983831 |⟩
```

In[109]:=
```
cm["Perplexity"]
```

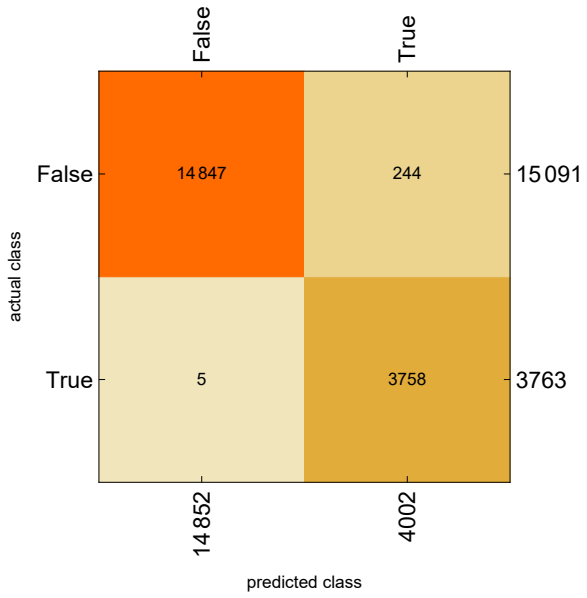
Out[109]=
```
1.04714
```

In[110]:=
```
cm["Precision"]
```

Out[110]=
```
⟨| False → 0.999663, True → 0.93903 |⟩
```

In[111]:=
```
cm["ConfusionMatrixPlot"]
```

Out[111]=



In[112]:=
```
cm["ROCCurve"]
```

Out[112]=