In[141]:=
```
dataPath = FileNameJoin[
    {ParentDirectory[NotebookDirectory[]], "data/dataOccupancyPreprocessed.csv"}];
```

In[142]:=
```
data = SemanticImport[dataPath, {"DateTime", "Real",
     "Real", "Real", "Real", "Real", "Boolean"}, "Dataset", HeaderLines → 1];
```

In[143]:=
```
trainData = Values@
    Normal[data[[All, {"Temperature", "Humidity", "Light", "CO2", "HumidityRatio"}]]];
```

In[144]:=
```
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[145]:=
```
cm = cluster["KMedoids", 2, SquaredEuclideanDistance];
```

In[146]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[146]=
```
⟨|False → 0.128436, True → 0.551532|⟩
```

In[147]:=
```
cm["Accuracy"]
```

Out[147]=
```
0.911053
```

In[148]:=
```
cm["FScore"]
```

Out[148]=
```
⟨|False → 0.941862, True → 0.810786|⟩
```

In[149]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[149]=
```
⟨|False → 0.128436, True → 0.551532|⟩
```

In[150]:=
```
cm["Specificity"]
```

Out[150]=
```
⟨|False → 0.954823, True → 0.900139|⟩
```

In[151]:=
```
cm["Perplexity"]
```

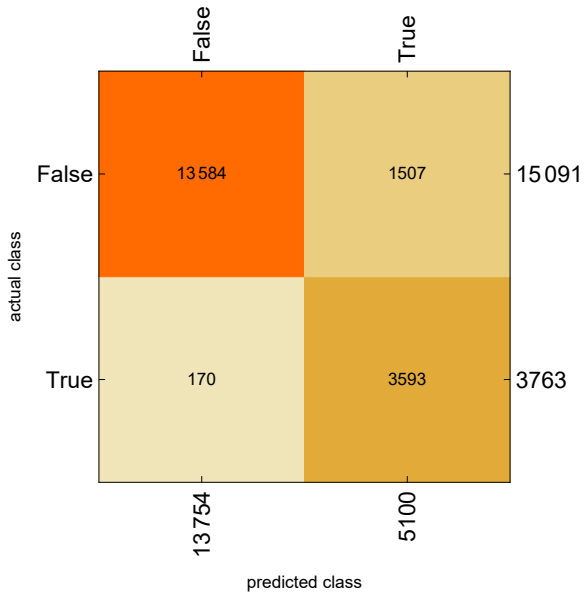
Out[151]=
```
1.23724
```

In[152]:=
```
cm["Precision"]
```

Out[152]=
```
⟨|False → 0.98764, True → 0.70451|⟩
```

In[153]:=
```
cm["ConfusionMatrixPlot"]
```

Out[153]=



In[154]:=
```
cm["ROCCurve"]
```

Out[154]=