In[71]:=
```
dataPath = FileNameJoin[
    {ParentDirectory[NotebookDirectory[]], "data/dataOccupancyPreprocessed.csv"}];
```

In[72]:=
```
data = SemanticImport[dataPath, {"DateTime", "Real",
     "Real", "Real", "Real", "Real", "Boolean"}, "Dataset", HeaderLines → 1];
```

In[73]:=
```
trainData = Values@
    Normal[data[[All, {"Temperature", "Humidity", "Light", "CO2", "HumidityRatio"}]]];
```

In[74]:=
```
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[75]:=
```
cm = cluster["KMedoids", 2, EuclideanDistance];
```

In[76]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[76]=
```
⟨|False → 0.208057, True → 1.3387|⟩
```

In[77]:=
```
cm["Accuracy"]
```

Out[77]=
```
0.800414
```

In[78]:=
```
cm["FScore"]
```

Out[78]=
```
⟨|False → 0.889144, True → 0.|⟩
```

In[79]:=
```
cm["ClassMeanCrossEntropy"]
```

Out[79]=
```
⟨|False → 0.208057, True → 1.3387|⟩
```

In[80]:=
```
cm["Specificity"]
```

Out[80]=
```
⟨|False → 0., True → 1.|⟩
```

In[81]:=
```
cm["Perplexity"]
```

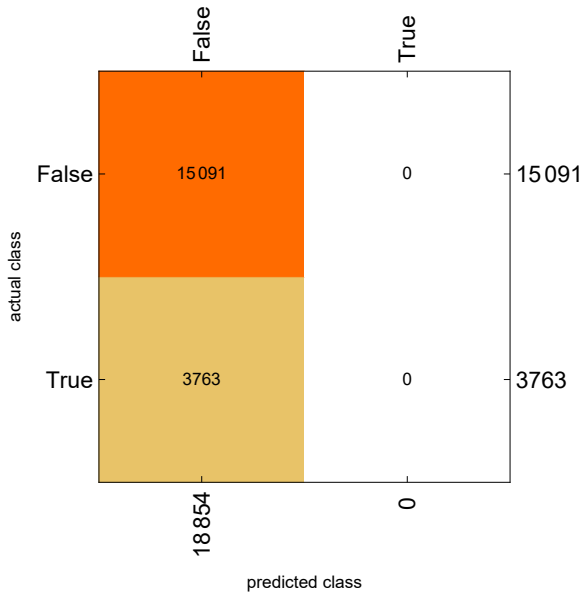
Out[81]=
```
1.54298
```

In[82]:=
```
cm["Precision"]
```

Out[82]=
```
⟨|False → 0.800414, True → Indeterminate|⟩
```

In[83]:=
```
cm["ConfusionMatrixPlot"]
```

Out[83]=



In[84]:=
```
cm["ROCCurve"]
```

Out[84]=