

# Model Report

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## 1.1 Source Code

```
def entropy(y):  
    p = sum(y=="malignant")/len(y); return -p*log2(p) - (1-p)*log2(1-p)  
def information_gain(y, mask):  
    # ... implementation ...  
# build_tree and DecisionTreeNode methods
```

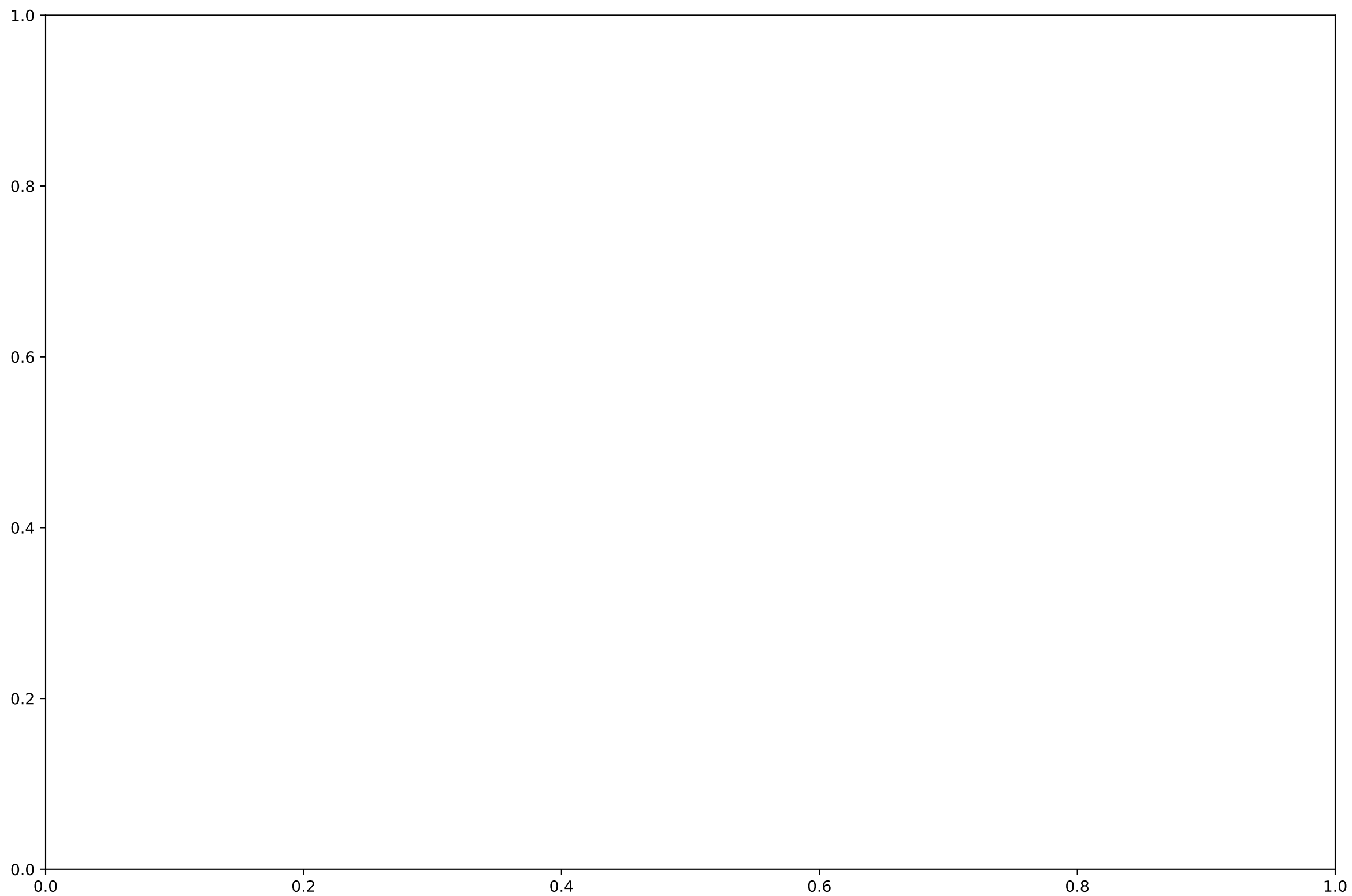
## 1.2 Binary Feature Binning

radius\_mean: median=13.38

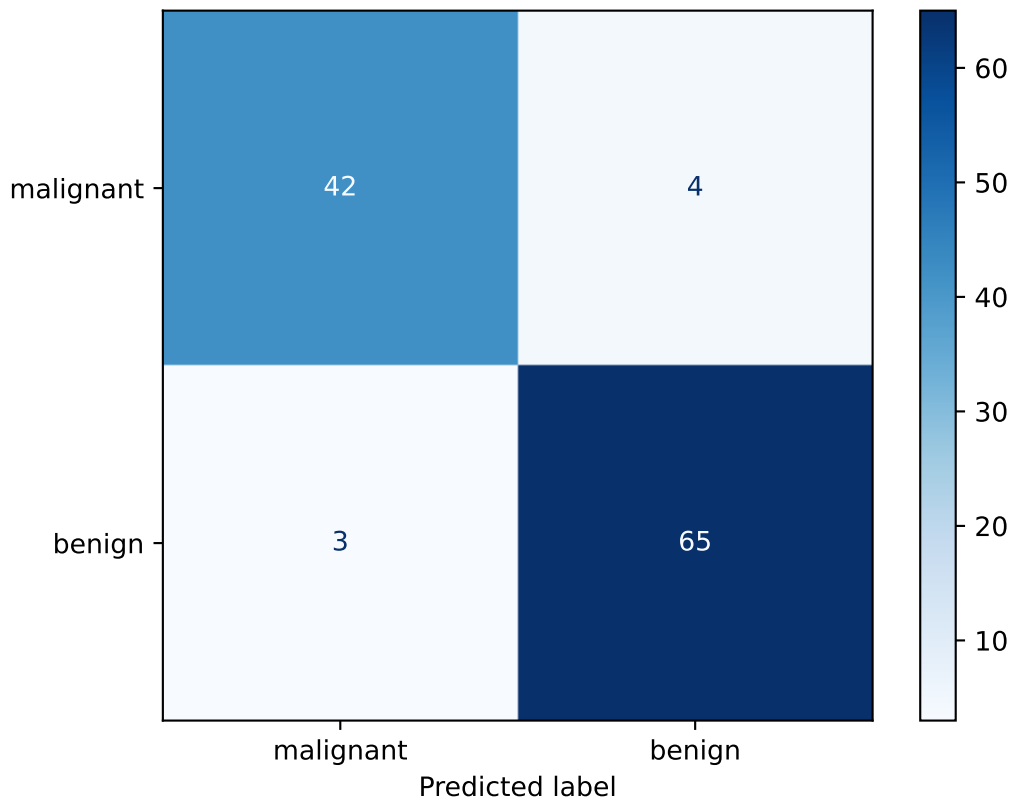
texture\_mean: median=18.84

perimeter\_mean: median=86.29

## 2.1 Decision Tree Visualization



Confusion Matrix



## 2.3 Performance Metrics

Metric	Value
Accuracy	0.939
Precision	0.933
Recall	0.913
F1 Score	0.923

## 2.4 Feature Importance

