

ניסויים
שם: אור שני
ת.ז. 206812034

השינויים של הנתונים מופיעים בשורה הראשונה של כל ניסוי, כל השאר default.

:Decision Tree

ניסוי 1:

```
model DecisionTreeClassifier(class_weight='balanced', criterion='entropy')
```

```
Decision Tree Results:  
Accuracy: 0.9590643274853801  
Confusion Matrix:  
[[ 58   5]  
 [   2 106]]  
Precision: 0.954954954954955  
Recall: 0.9814814814814815  
F1 Score: 0.9680365296803652
```

ניסוי 2:

```
model DecisionTreeClassifier(criterion='entropy')
```

```
Decision Tree Results:  
Accuracy: 0.9590643274853801  
Confusion Matrix:  
[[ 58   5]  
 [   2 106]]  
Precision: 0.954954954954955  
Recall: 0.9814814814814815  
F1 Score: 0.9680365296803652
```

ניסוי 3:

```
model DecisionTreeClassifier(max_features=5)
```

Decision Tree Results:

Accuracy: 0.9239766081871345

Confusion Matrix:

```
[[59  4]
 [ 9 99]]
```

Precision: 0.9611650485436893

Recall: 0.9166666666666666

F1 Score: 0.9383886255924171

ניסוי 4:

```
model DecisionTreeClassifier(max_features='sqrt')
```

Decision Tree Results:

Accuracy: 0.9415204678362573

Confusion Matrix:

```
[[ 60   3]
 [  7 101]]
```

Precision: 0.9711538461538461

Recall: 0.9351851851851852

F1 Score: 0.9528301886792453

ניסוי 5:

```
model DecisionTreeClassifier(ccp_alpha=0.01)
```

Decision Tree Results:

Accuracy: 0.9649122807017544

Confusion Matrix:

```
[[ 60   3]
 [  3 105]]
```

Precision: 0.9722222222222222

Recall: 0.9722222222222222

F1 Score: 0.9722222222222222

:Random Forest

:ניסוי 1

```
model RandomForestClassifier(criterion='entropy')
```

```
Random Forest Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 59   4]  
 [  1 107]]  
Precision: 0.963963963963964  
Recall: 0.9907407407407407  
F1 Score: 0.9771689497716894
```

:ניסוי 2

```
model RandomForestClassifier(criterion='entropy', n_estimators=1000)
```

```
Random Forest Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 59   4]  
 [  1 107]]  
Precision: 0.963963963963964  
Recall: 0.9907407407407407  
F1 Score: 0.9771689497716894
```

:ניסוי 3

```
model RandomForestClassifier(max_depth=5, max_features='log2')
```

```
Random Forest Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 59   4]  
 [  1 107]]  
Precision: 0.963963963963964  
Recall: 0.9907407407407407  
F1 Score: 0.9771689497716894
```

ניסוי 4:

```
model RandomForestClassifier(ccp_alpha=0.01)
```

```
Random Forest Results:  
Accuracy: 0.9649122807017544  
Confusion Matrix:  
[[ 59   4]  
 [  2 106]]  
Precision: 0.9636363636363636  
Recall: 0.9814814814814815  
F1 Score: 0.9724770642201835
```

ניסוי 5:

```
model RandomForestClassifier(bootstrap=False)
```

```
Random Forest Results:  
Accuracy: 0.9766081871345029  
Confusion Matrix:  
[[ 60   3]  
 [  1 107]]  
Precision: 0.9727272727272728  
Recall: 0.9907407407407407  
F1 Score: 0.981651376146789
```

:adaboost

:ניסוי 1

```
model AdaBoostClassifier(learning_rate=0.5, n_estimators=100)
```

```
AdaBoost Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 59   4]  
 [  1 107]]  
Precision: 0.963963963963964  
Recall: 0.9907407407407407  
F1 Score: 0.9771689497716894
```

:ניסוי 2

```
model AdaBoostClassifier(learning_rate=0.2, n_estimators=200)
```

```
AdaBoost Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 59   4]  
 [  1 107]]  
Precision: 0.963963963963964  
Recall: 0.9907407407407407  
F1 Score: 0.9771689497716894
```

:ניסוי 3

```
model AdaBoostClassifier(n_estimators=300)
```

```
AdaBoost Results:  
Accuracy: 0.9766081871345029  
Confusion Matrix:  
[[ 60   3]  
 [  1 107]]  
Precision: 0.9727272727272728  
Recall: 0.9907407407407407  
F1 Score: 0.981651376146789
```

ניסוי 4:

```
model AdaBoostClassifier(learning_rate=1.5, n_estimators=400)
```

```
AdaBoost Results:  
Accuracy: 0.9766081871345029  
Confusion Matrix:  
[[ 60   3]  
 [  1 107]]  
Precision: 0.9727272727272728  
Recall: 0.9907407407407407  
F1 Score: 0.981651376146789
```

ניסוי 5:

```
model AdaBoostClassifier(n_estimators=1000)
```

```
AdaBoost Results:  
Accuracy: 0.9707602339181286  
Confusion Matrix:  
[[ 60   3]  
 [  2 106]]  
Precision: 0.9724770642201835  
Recall: 0.9814814814814815  
F1 Score: 0.9769585253456221
```