

CYBER SECURITY

Digital Assignment – 2

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Classification Algorithm Used:

- Stacking Ensemble
- Major Voting Ensemble
- Weighted Ensemble Classifier

ATTACKS :

1.) UDP

S.No	Model	Accuracy
1.	Stacking Ensemble	0.42 (+/- 0.35)
2.	Major Voting Ensemble	0.9996466666666667
3.	Weighted Ensemble Classifier	0.31 (+/- 0.30)

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Accuracy: 0.42 (+/- 0.35) [StackingClassifier]
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Major Voting Ensemble: 0.9996466666666667
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Accuracy: 0.24 (+/- 0.34) [decision tree]
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Accuracy: 0.33 (+/- 0.32) [Gradient Boosting]
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Accuracy: 0.95 (+/- 0.03) [Gaussian Process]
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Accuracy: 0.31 (+/- 0.30) [Weighted Ensemble]
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2.) TCPSYN

S.No	Model	Accuracy
1.	Stacking Ensemble	0.47 (+/- 0.33)
2.	Major Voting Ensemble	0.9994266055045872
3.	Weighted Ensemble Classifier	0.36 (+/- 0.28)

Accuracy: 0.47 (+/- 0.33) [StackingClassifier]

Major Voting Ensemble: 0.9994266055045872

Accuracy: 0.24 (+/- 0.33) [decesion tree]

Accuracy: 0.43 (+/- 0.30) [Gradient Boosting]

Accuracy: 0.93 (+/- 0.03) [Gaussian Process]

Accuracy: 0.36 (+/- 0.28) [Weighted Ensemble]

3.) ICMP

S.No	Model	Accuracy
1.	Stacking Ensemble	0.47 (+/- 0.38)
2.	Major Voting Ensemble	0.9994250645994832
3.	Weighted Ensemble Classifier	0.40 (+/- 0.31)

Accuracy: 0.47 (+/- 0.38) [StackingClassifier]

Major Voting Ensemble: 0.9994250645994832

Accuracy: 0.25 (+/- 0.33) [decesion tree]

Accuracy: 0.40 (+/- 0.31) [Gradient Boosting]

Accuracy: 0.95 (+/- 0.03) [Gaussian Process]

Accuracy: 0.40 (+/- 0.31) [Weighted Ensemble]

4.) LAND

S.No	Model	Accuracy
1.	Stacking Ensemble	0.47 (+/- 0.09)
2.	Major Voting Ensemble	0.5639930555555556
3.	Weighted Ensemble Classifier	0.44 (+/- 0.09)

Accuracy: 0.47 (+/- 0.09) [StackingClassifier]

Major Voting Ensemble: 0.5647916666666667

Accuracy: 0.43 (+/- 0.09) [decesion tree]

Accuracy: 0.44 (+/- 0.09) [Gradient Boosting]

Accuracy: 0.60 (+/- 0.03) [Gaussian Process]

Accuracy: 0.44 (+/- 0.09) [Weighted Ensemble]

5.) TCPSYNACK

S.No	Model	Accuracy
1.	Stacking Ensemble	0.47 (+/- 0.04)
2.	Major Voting Ensemble	0.5086594202898551
3.	Weighted Ensemble Classifier	0.46 (+/- 0.05)

Accuracy: 0.47 (+/- 0.04) [StackingClassifier]

Major Voting Ensemble: 0.5114855072463768

Accuracy: 0.46 (+/- 0.05) [decesion tree]

Accuracy: 0.47 (+/- 0.05) [Gradient Boosting]

Accuracy: 0.50 (+/- 0.01) [Gaussian Process]

Accuracy: 0.46 (+/- 0.05) [Weighted Ensemble]