Seed = 32

Best Hyperparameters: {'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 2, 'n\_estimators': 100}

Classification Report

precision recall f1-score support

0 0.94 1.00 0.97 16

1 1.00 1.00 1.00 18

2 1.00 1.00 1.00 27

3 1.00 1.00 1.00 17

4 1.00 1.00 1.00 16

5 0.95 1.00 0.97 18

6 0.94 1.00 0.97 17

7 1.00 1.00 1.00 20

8 1.00 0.94 0.97 18

9 1.00 1.00 1.00 15

10 1.00 1.00 1.00 15

11 1.00 1.00 1.00 16

12 1.00 1.00 1.00 17

13 1.00 1.00 1.00 12

14 1.00 1.00 1.00 15

15 0.93 1.00 0.96 13

16 1.00 0.94 0.97 17

17 1.00 0.88 0.93 16

18 1.00 1.00 1.00 18

19 1.00 1.00 1.00 15

accuracy 0.99 336

macro avg 0.99 0.99 0.99 336

weighted avg 0.99 0.99 0.99 336

Best Hyperparameters: {'max\_depth': 10, 'min\_samples\_leaf': 4, 'min\_samples\_split': 2, 'n\_estimators': 100}

Classification Report

precision recall f1-score support

0 0.94 1.00 0.97 17

1 1.00 1.00 1.00 23

2 1.00 1.00 1.00 17

3 1.00 1.00 1.00 18

4 1.00 1.00 1.00 23

5 1.00 1.00 1.00 18

6 1.00 1.00 1.00 18

7 1.00 1.00 1.00 25

8 1.00 1.00 1.00 15

9 1.00 1.00 1.00 23

10 1.00 1.00 1.00 17

11 1.00 1.00 1.00 16

12 1.00 1.00 1.00 20

13 1.00 1.00 1.00 18

14 1.00 1.00 1.00 12

15 1.00 1.00 1.00 20

16 1.00 1.00 1.00 15

17 1.00 0.94 0.97 18

18 1.00 1.00 1.00 22

19 1.00 1.00 1.00 11

accuracy 1.00 366

macro avg 1.00 1.00 1.00 366

weighted avg 1.00 1.00 1.00 366

Best Hyperparameters: {'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 2, 'n\_estimators': 50}

Classification Report

precision recall f1-score support

0 0.95 1.00 0.97 19

1 1.00 1.00 1.00 18

2 1.00 1.00 1.00 14

3 1.00 1.00 1.00 23

4 1.00 1.00 1.00 21

5 1.00 1.00 1.00 12

6 0.94 1.00 0.97 17

7 1.00 1.00 1.00 17

8 1.00 1.00 1.00 23

9 1.00 1.00 1.00 15

10 1.00 1.00 1.00 25

11 1.00 1.00 1.00 13

12 1.00 1.00 1.00 15

13 0.91 1.00 0.95 21

14 1.00 1.00 1.00 15

15 1.00 1.00 1.00 19

16 1.00 1.00 1.00 23

17 1.00 0.78 0.88 18

18 1.00 1.00 1.00 16

19 1.00 1.00 1.00 13

accuracy 0.99 357

macro avg 0.99 0.99 0.99 357

weighted avg 0.99 0.99 0.99 357

Accuracy: 0.988795518207283