CONFRONTO SPIDER WEB METHOD CON STATO DELL'ARTE

OUTPUT NO WEB BALANCED DECISION TREE (432 IMG PER SESSO)

Criterion = "gini" max_depth = 13

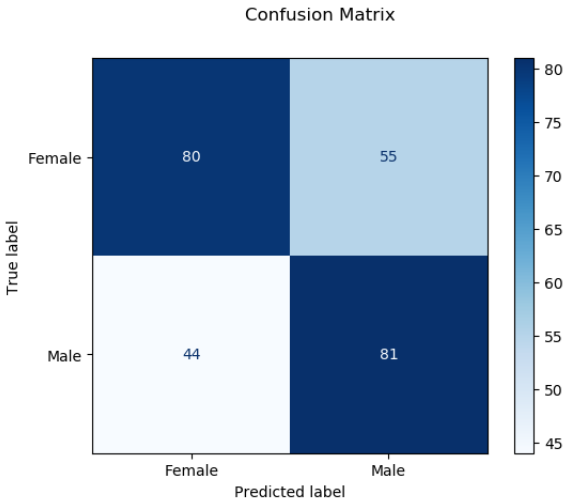
Accuracy: 0.583

Criterion = "entropy" max_depth = 13

Accuracy: 0.503

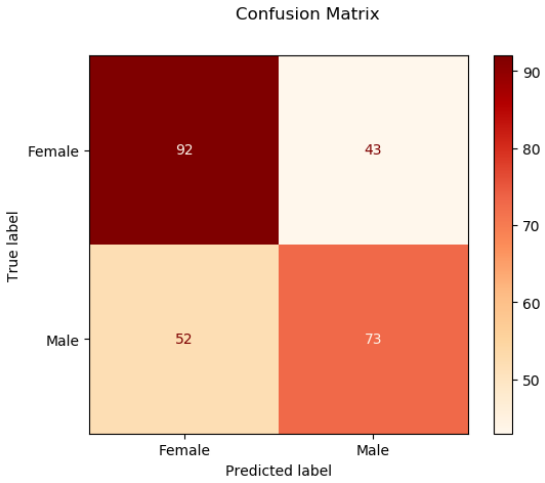
OUTPUT NO WEB BALANCED K NEAREST NEIGHBORS (432 IMG PER SESSO)

```
Classification report for classifier KNeighborsClassifier(algorithm='auto', leaf_size=30, metric='minkowski',
                     metric_params=None, n_jobs=None, n_neighbors=9, p=2,
                     weights='uniform'):
              precision    recall  f1-score   support

        -1.0       0.65      0.59      0.62       135
         1.0       0.60      0.65      0.62       125

    accuracy                           0.62       260
   macro avg       0.62      0.62      0.62       260
weighted avg       0.62      0.62      0.62       260


Confusion matrix:
[[80 55]
 [44 81]]
Accuracy: 0.6192307692307693
```



OUTPUT NO WEB BALANCED SVM (432 IMG PER SESSO)

```
Classification report for classifier SVC(C=10, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
    decision_function_shape='ovr', degree=3, gamma='auto', kernel='rbf',
    max_iter=-1, probability=False, random_state=1, shrinking=True, tol=0.001,
    verbose=False):
              precision    recall  f1-score   support

        -1.0       0.64      0.68      0.66       135
         1.0       0.63      0.58      0.61       125

    accuracy                           0.63       260
   macro avg       0.63      0.63      0.63       260
weighted avg       0.63      0.63      0.63       260


Confusion matrix:
[[92 43]
 [52 73]]

Tempo trascorso: 0.05m

Accuratezza:
0.6346153846153846
```



OUTPUT NO WEB DECISION TREE (1000 IMG)

Criterion = “gini” max_depth = 13

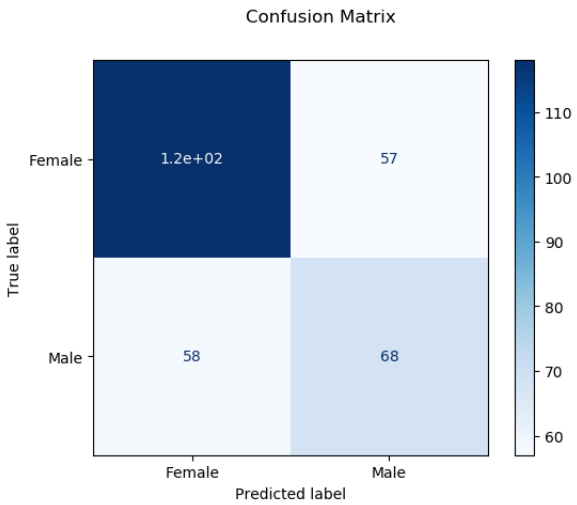
Accuracy: 0.534

Criterion = “entropy” max_depth = 13

Accuracy: 0.566

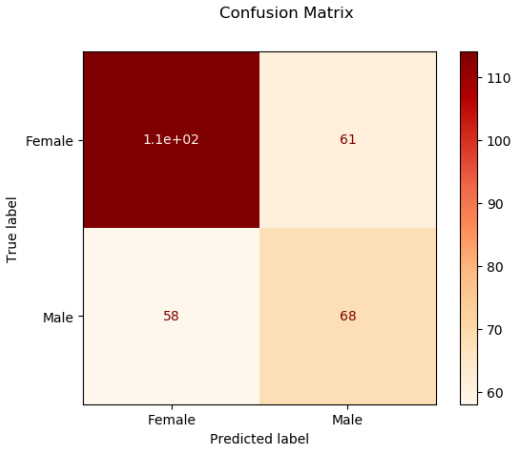
OUTPUT NO WEB KNN (1000 IMG)

```
Classification report for classifier KNeighborsClassifier(algorithm='auto', leaf_size=30, metric='minkowski',
                     metric_params=None, n_jobs=None, n_neighbors=9, p=2,
                     weights='uniform'):
              precision    recall  f1-score   support

          -1       0.67      0.67      0.67       175
           1       0.54      0.54      0.54       126

    accuracy                           0.62       301
   macro avg       0.61      0.61      0.61       301
weighted avg       0.62      0.62      0.62       301


Confusion matrix:
[[118  57]
 [ 58  68]]
Accuracy: 0.6179401993355482

Tempo trascorso: 0.06m
```



OUTPUT NO WEB SVM (1000 IMG)

```
Classification report for classifier SVC(C=10, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
    decision_function_shape='ovr', degree=3, gamma='auto', kernel='rbf',
    max_iter=-1, probability=False, random_state=1, shrinking=True, tol=0.001,
    verbose=False):
              precision    recall  f1-score   support

          -1       0.66      0.65      0.66       175
           1       0.53      0.54      0.53       126

    accuracy                           0.60       301
   macro avg       0.59      0.60      0.60       301
weighted avg       0.61      0.60      0.61       301


Confusion matrix:
[[114  61]
 [ 58  68]]

Tempo trascorso: 0.07m

Accuratezza:
0.6046511627906976
```



OUTPUT SPIDER WEB DECISION TREE (1000 IMG)

Criterion = “gini” max_depth = 13

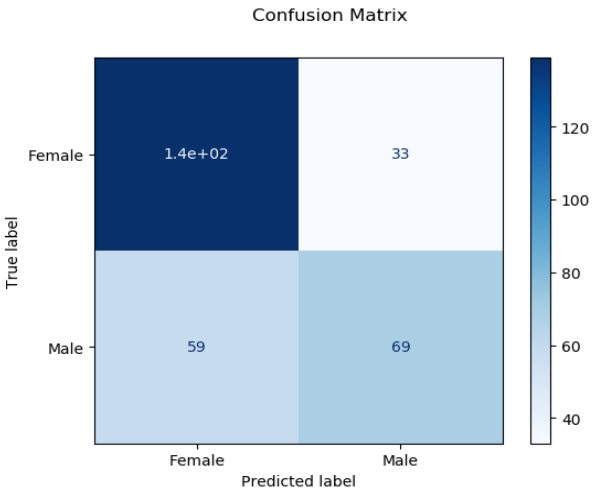
Accuracy: 0.666

Criterion = “entropy” max_depth = 13

Accuracy: 0.623

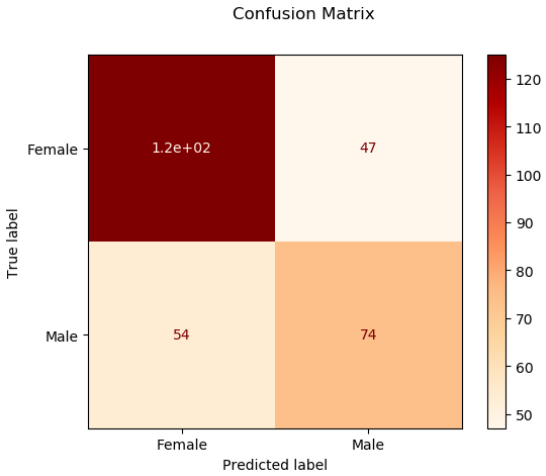
OUTPUT SPIDER WEB KNN (1000IMG)

```
Classification report for classifier KNeighborsClassifier(algorithm='auto', leaf_size=30, metric='minkowski',
                     metric_params=None, n_jobs=None, n_neighbors=9, p=2,
                     weights='uniform'):
              precision    recall  f1-score   support

          -1       0.70      0.81      0.75       172
           1       0.68      0.54      0.60       128

    accuracy                           0.69       300
   macro avg       0.69      0.67      0.68       300
weighted avg       0.69      0.69      0.69       300


Confusion matrix:
[[139  33]
 [ 59  69]]
Accuracy: 0.6933333333333334
```



OUTPUT SPIDER WEB SVM (1000IMG)

```
Classification report for classifier SVC(C=10, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
    decision_function_shape='ovr', degree=3, gamma='auto', kernel='rbf',
    max_iter=-1, probability=False, random_state=1, shrinking=True, tol=0.001,
    verbose=False):
              precision    recall  f1-score   support

          -1       0.70      0.73      0.71       172
           1       0.61      0.58      0.59       128

    accuracy                           0.66       300
   macro avg       0.65      0.65      0.65       300
weighted avg       0.66      0.66      0.66       300


Confusion matrix:
[[125  47]
 [ 54  74]]

Tempo trascorso: 0.06m

Accuratezza:
0.6633333333333333
```



OUTPUT SPIDER WEB BILANCIATO DECISION TREE (432 IMG PER SESSO)

Criterion = “gini” max_depth = 13

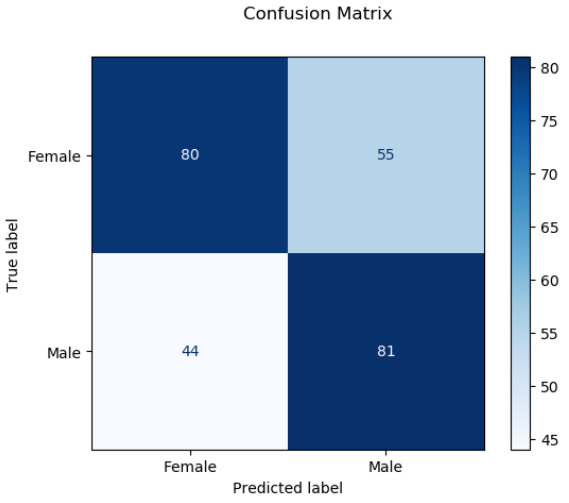
Accuracy: 0.635

Criterion = “entropy” max_depth = 13

Accuracy: 0.594

OUTPUT SPIDER WEB BILANCIATO KNN (432 IMG PER SESSO)

```
Classification report for classifier KNeighborsClassifier(algorithm='auto', leaf_size=30, metric='minkowski',
                     metric_params=None, n_jobs=None, n_neighbors=9, p=2,
                     weights='uniform'):
              precision    recall  f1-score   support

          -1       0.65      0.59      0.62       135
           1       0.60      0.65      0.62       125

    accuracy                           0.62       260
   macro avg       0.62      0.62      0.62       260
weighted avg       0.62      0.62      0.62       260


Confusion matrix:
[[80 55]
 [44 81]]
Accuracy: 0.6192307692307693

Tempo trascorso: 0.04m
```



OUTPUT SPIDER WEB BILANCIATO SVM (432 IMG PER SESSO)

```
Classification report for classifier SVC(C=10, break_ties=False, cache_size=200, class_weight=None, coef0=0.0,
    decision_function_shape='ovr', degree=3, gamma='auto', kernel='rbf',
    max_iter=-1, probability=False, random_state=1, shrinking=True, tol=0.001,
    verbose=False):
              precision    recall  f1-score   support

          -1       0.70      0.68      0.69       135
           1       0.67      0.69      0.68       125

    accuracy                           0.68       260
   macro avg       0.68      0.68      0.68       260
weighted avg       0.69      0.68      0.68       260


Confusion matrix:
[[92 43]
 [39 86]]

Tempo trascorso: 0.06m
```

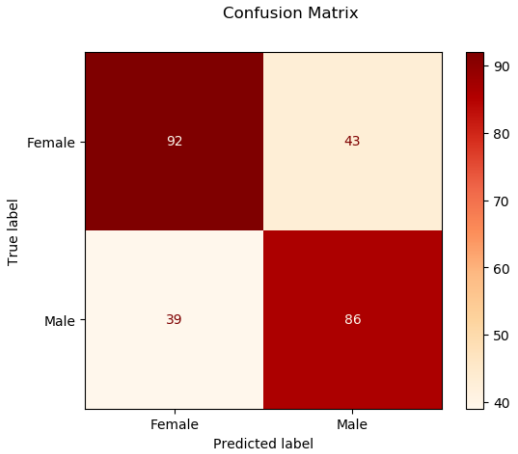
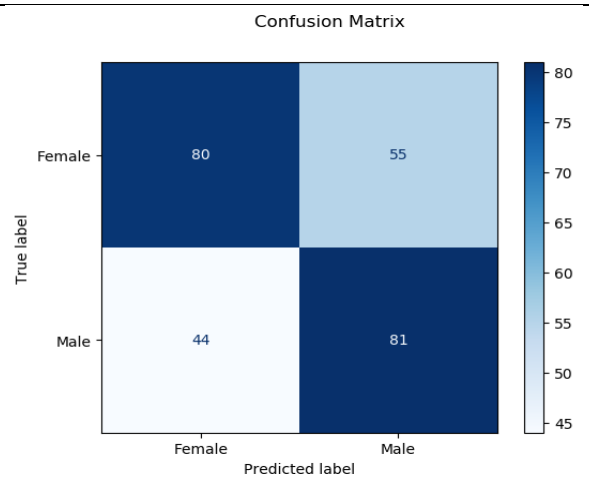
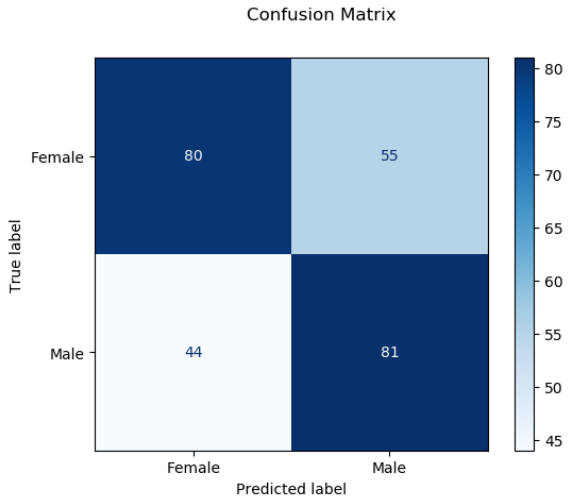
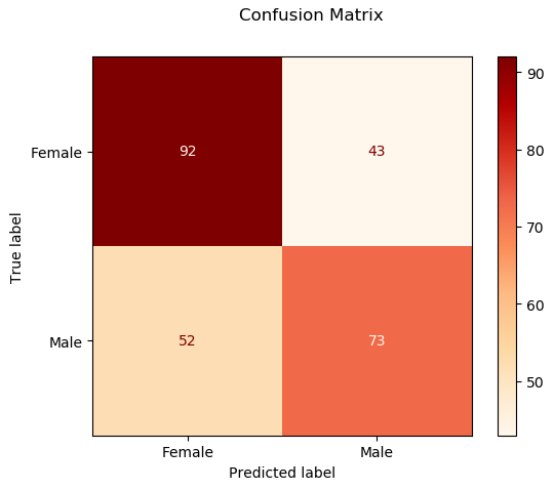
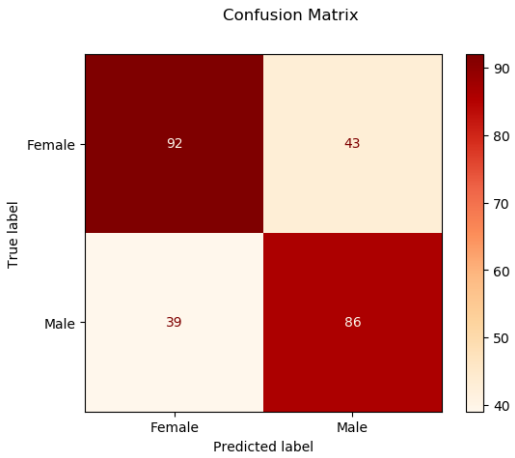
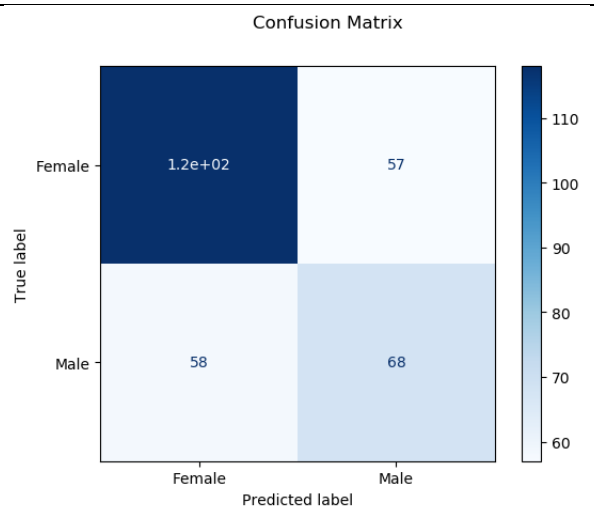
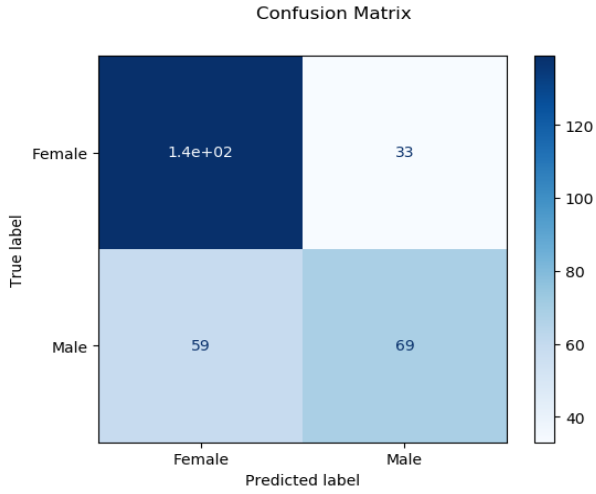
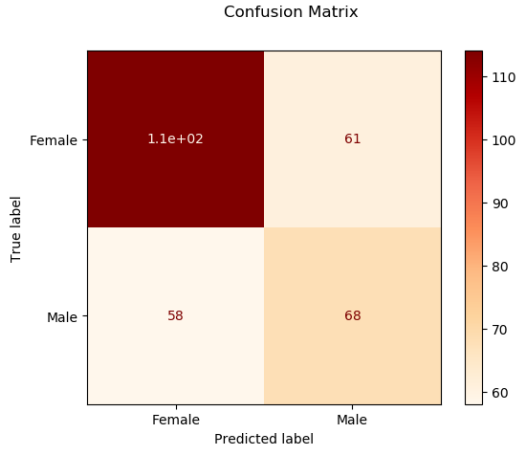
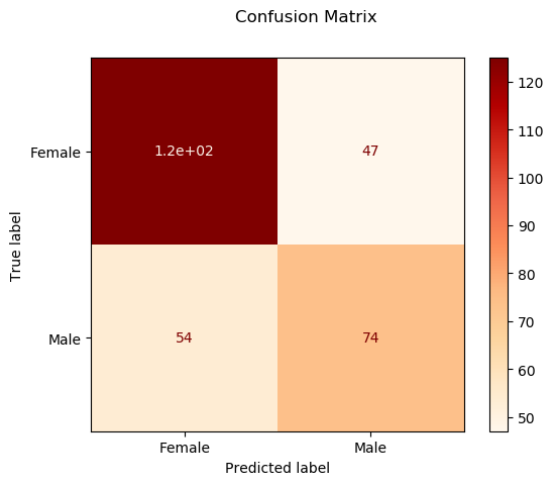


TABELLE RIASSUNTIVE

#Test	Configurazione	Accuratezza	Output
1	Metodo **no spider web** su dataset **bilanciato** (432 img per sesso) Classificatore: Decision Tree (gini, max_depth = 13)	58.3%	
2	Metodo **no spider web** su dataset **bilanciato** (432 img per sesso) Classificatore: Decision Tree (entropy, max_depth = 13)	50.3%	
3	Metodo spider web su dataset **bilanciato** (432 img per sesso) Classificatore: Decision Tree (gini, max_depth = 13)	**63.5%**	
4	Metodo spider web su dataset **bilanciato** (432 img per sesso) Classificatore: Decision Tree (entropy, max_depth = 13)	59.4%	
5	Metodo **no spider web** su dataset **bilanciato** (432 img per sesso) Classificatore: KNN	61.9%	

6	Metodo spider web su dataset **bilanciato** (432 img per sesso) Classificatore: KNN	61.9%	
7	Metodo **no spider web** su dataset **bilanciato** (432 img per sesso) Classificatore: SVM RBF	63.4%	
8	Metodo spider web su dataset **bilanciato** (432 img per sesso) Classificatore: SVM RBF	**68.4%**	
9	Metodo **no spider web** su dataset 1000 img Classificatore: Decision tree(gini, max_depth=13)	53.4%	
10	Metodo **no spider web** su dataset 1000 img Classificatore: Decision tree(entropy, max_depth=13)	56.6%	

11	Metodo spider web su dataset 1000 img Classificatore: Decision tree(gini, max_depth=13)	**66.6%**	
12	Metodo spider web su dataset 1000 img Classificatore: Decision tree(gini, max_depth=13)	62.3%	
13	Metodo **no spider web** su dataset 1000 img Classificatore: KNN	61.7%	
14	Metodo spider web su dataset 1000 img Classificatore: KNN	**<u>69.3%</u>**	
15	Metodo **no spider web** su dataset 1000 img Classificatore: RBF SVM	60.4%	

16	Metodo spider web su dataset 1000 img Classificatore: RBF SVM	**66.3%**	

Accuracy migliore ottenuta**: 69.3%** sulla configurazione 4c4s calcolata tramite il metodo spider web su 1000 immagini usando il classificatore KNN.