RANDOM FOREST RESULT

in list **ANALYZE & FINDINGS** 👁

Notifications

👁 Watching ✓

Description

3.1 Random Forest - Hyperparameter Tuning ✅

lemmatization = nlp_id

vectorizer = **CountVectorizer**

3.2 Random Forest - Hyperparameter Tuning ✅

lemmatization = nlp_id

vectorizer = **TF-IDF**

3.3 Random Forest - Hyperparameter Tuning ✅

lemmatization = nlp_id

vectorizer = **Word2Vec**

3.4 Random Forest - Hyperparameter Tuning ✅
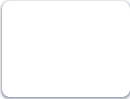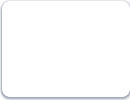
⌄ Show more

Attachments

Files

image.png
Added 20 Sept 2024, 20:11
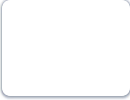
image.png
Added 20 Sept 2024, 20:11

image.png
Added 20 Sept 2024, 19:14

image.png
Added 20 Sept 2024, 19:14

Activity

KF **Kaira Milani Fitria** 20 Sept 2024, 19:16
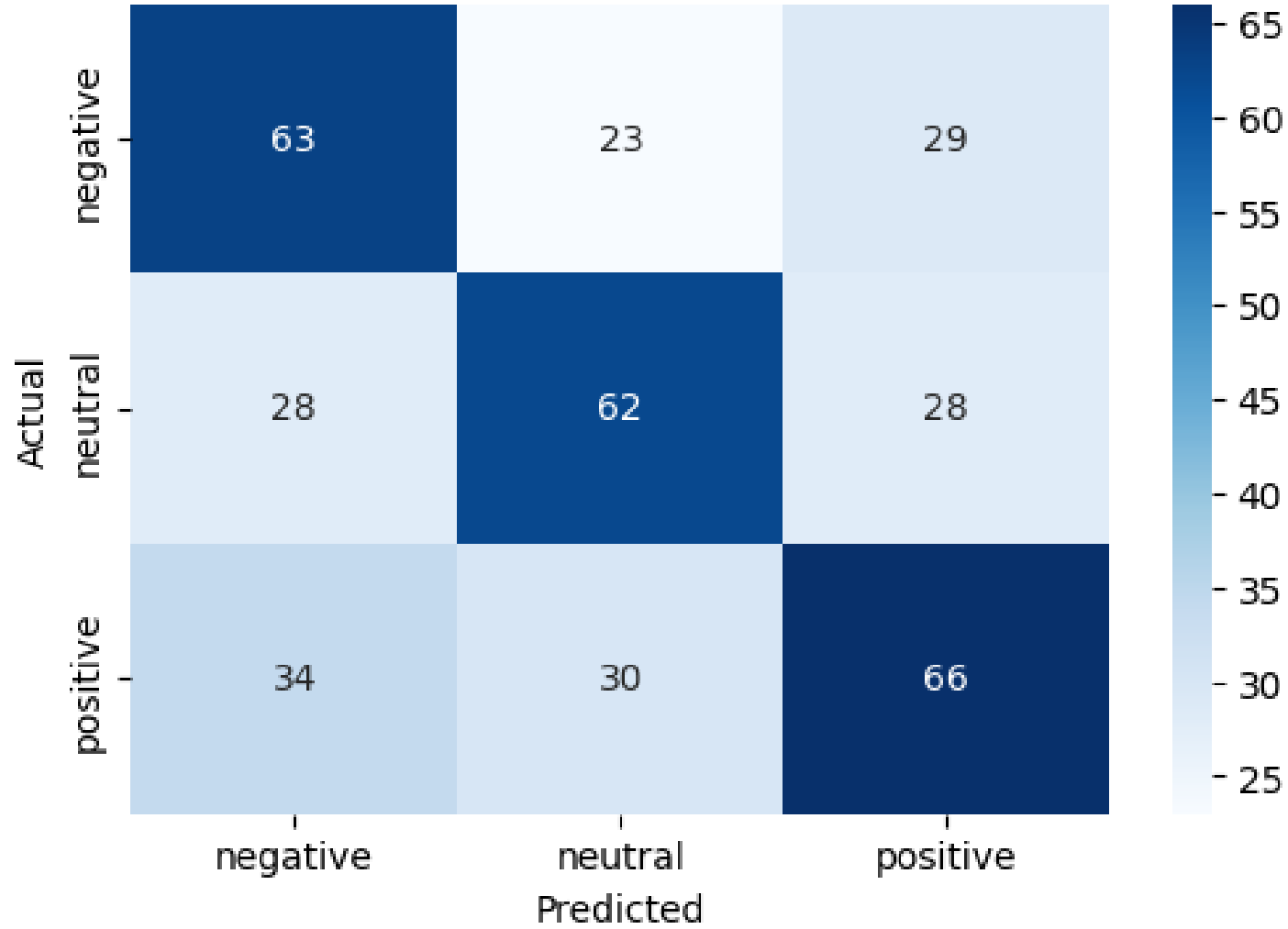
3.6 Random Forest - Hyperparameter Tuning

lemmatization = nlp_id

vectorizer = **GPT**

Best Parameters for Random Forest: {'bootstrap': False, 'max_depth': None, 'max_features': 'sqrt', 'min_samples_leaf': 1, 'min_samples_split': 5, 'n_estimators': 200} Best Random Forest Score: 0.5454545454545454

```
Accuracy: 0.5261707988980716
Classification Report:
                precision    recall  f1-score   support

    negative        0.50      0.55      0.53       115
     neutral        0.54      0.53      0.53       118
    positive        0.54      0.51      0.52       130

    accuracy                            0.53       363
   macro avg        0.53      0.53      0.53       363
weighted avg        0.53      0.53      0.53       363
```


Confusion Matrix

• Edit • Delete

Kaira Milani Fitria 20 Sept 2024, 19:15 (edited)

3.5 Random Forest - Hyperparameter Tuning
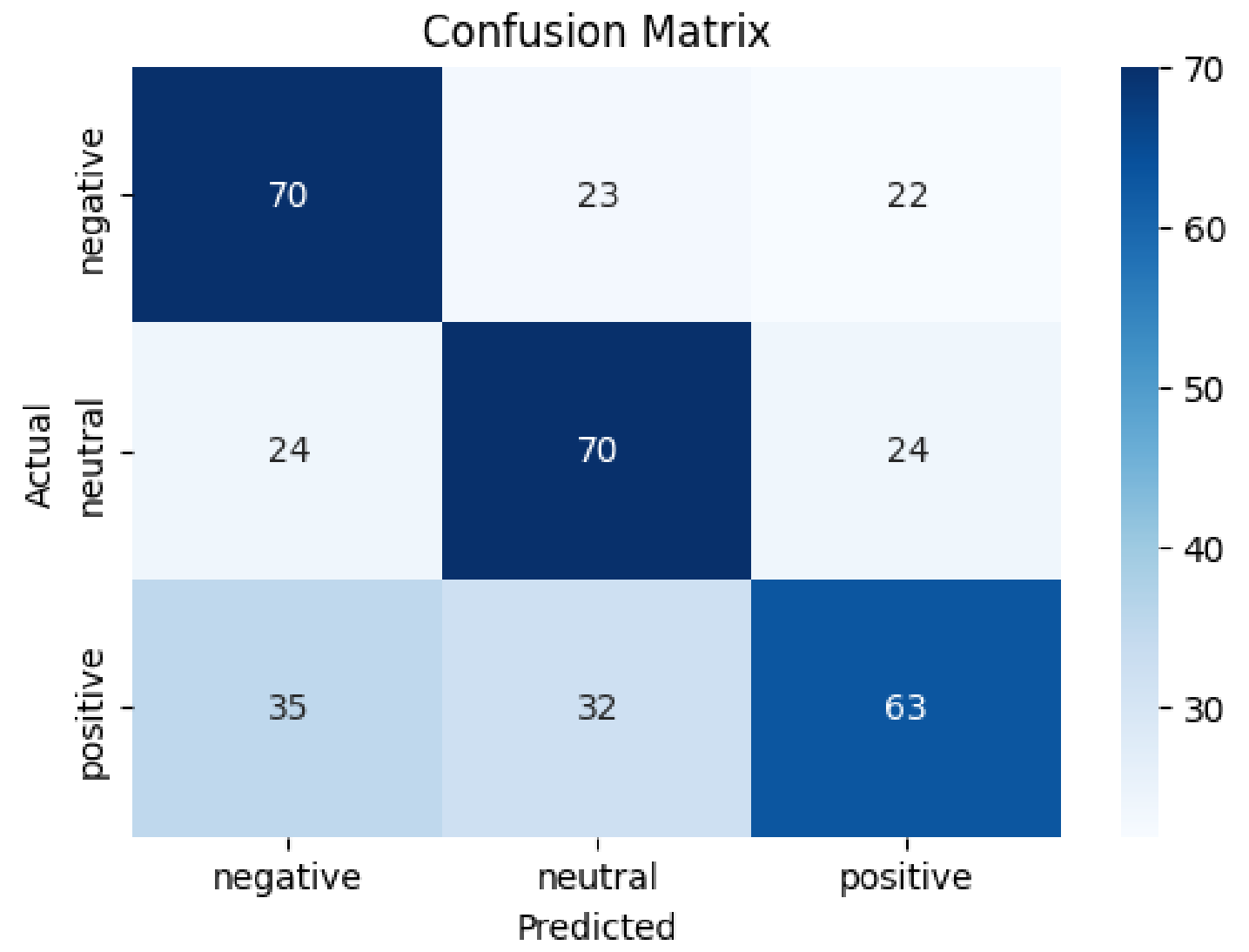
lemmatization = nlp_id

vectorizer = **RoBERTa**

```
Best Parameters for Random Forest: {'bootstrap': False, 'max_depth': 10, 'max_features': 'sqrt',
'min_samples_leaf': 2, 'min_samples_split': 5, 'n_estimators': 200} Best Random Forest Score:
0.5482093663911846
```

```
Accuracy: 0.5592228650137741
Classification Report:
                 precision    recall  f1-score   support

      negative       0.54      0.61      0.57       115
       neutral       0.56      0.59      0.58       118
      positive       0.58      0.48      0.53       130

      accuracy                           0.56       363
     macro avg       0.56      0.56      0.56       363
  weighted avg       0.56      0.56      0.56       363
```
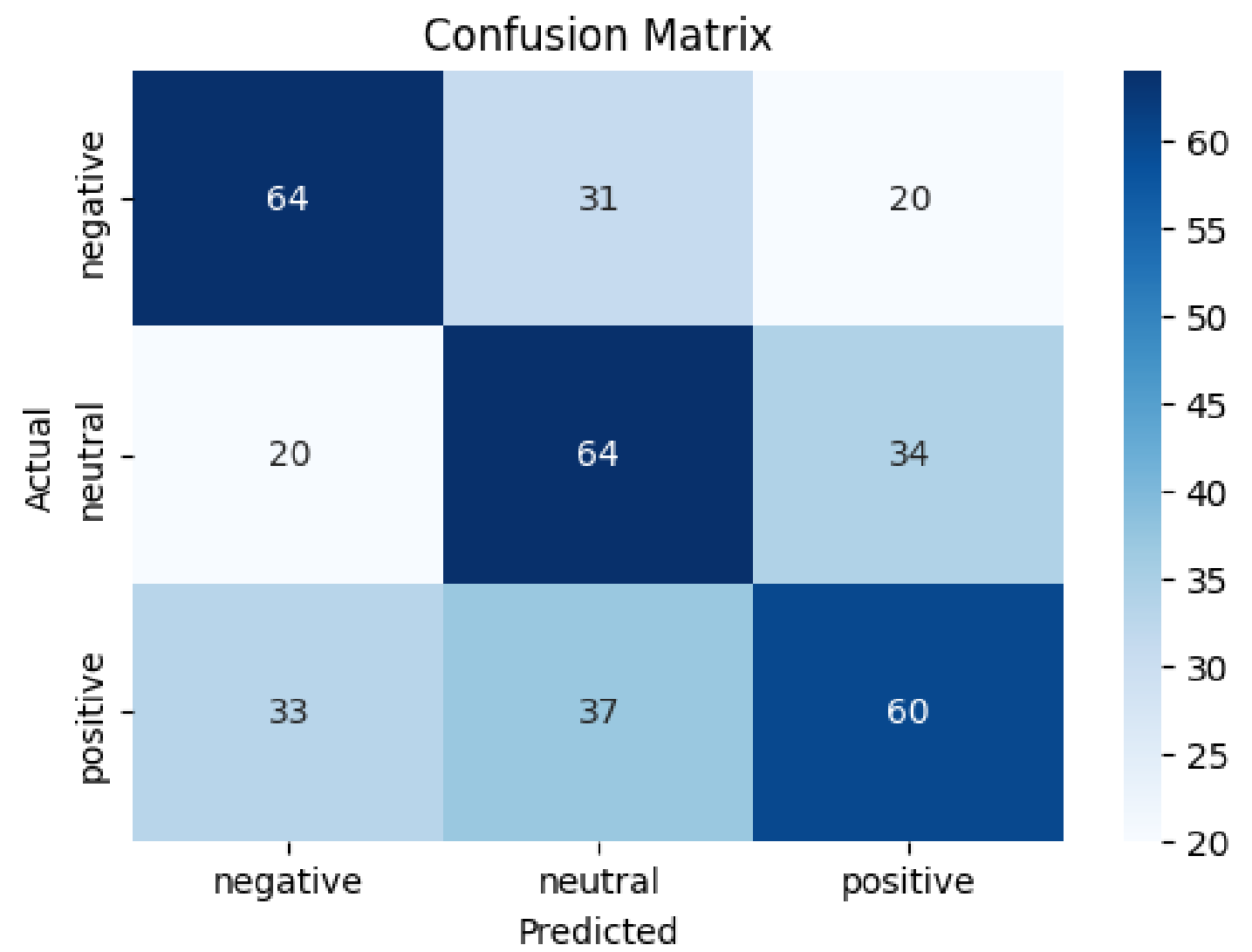
Confusion Matrix

Kaira Milani Fitria 20 Sept 2024, 18:59

3.4 Random Forest - Hyperparameter Tuning

lemmatization = nlp_id

vectorizer = **BERT**

```
Best Parameters for Random Forest: {'bootstrap': False, 'max_depth': 10, 'max_features': 'sqrt',
'min_samples_leaf': 2, 'min_samples_split': 5, 'n_estimators': 100} Best Random Forest Score:
0.5523415977961431
```

```
Accuracy: 0.51790633608881543
Classification Report:
                  precision      recall    f1-score     support

      negative        0.55        0.56        0.55         115
       neutral        0.48        0.54        0.51         118
      positive        0.53        0.46        0.49         130

      accuracy                                0.52         363
     macro avg        0.52        0.52        0.52         363
  weighted avg        0.52        0.52        0.52         363
```
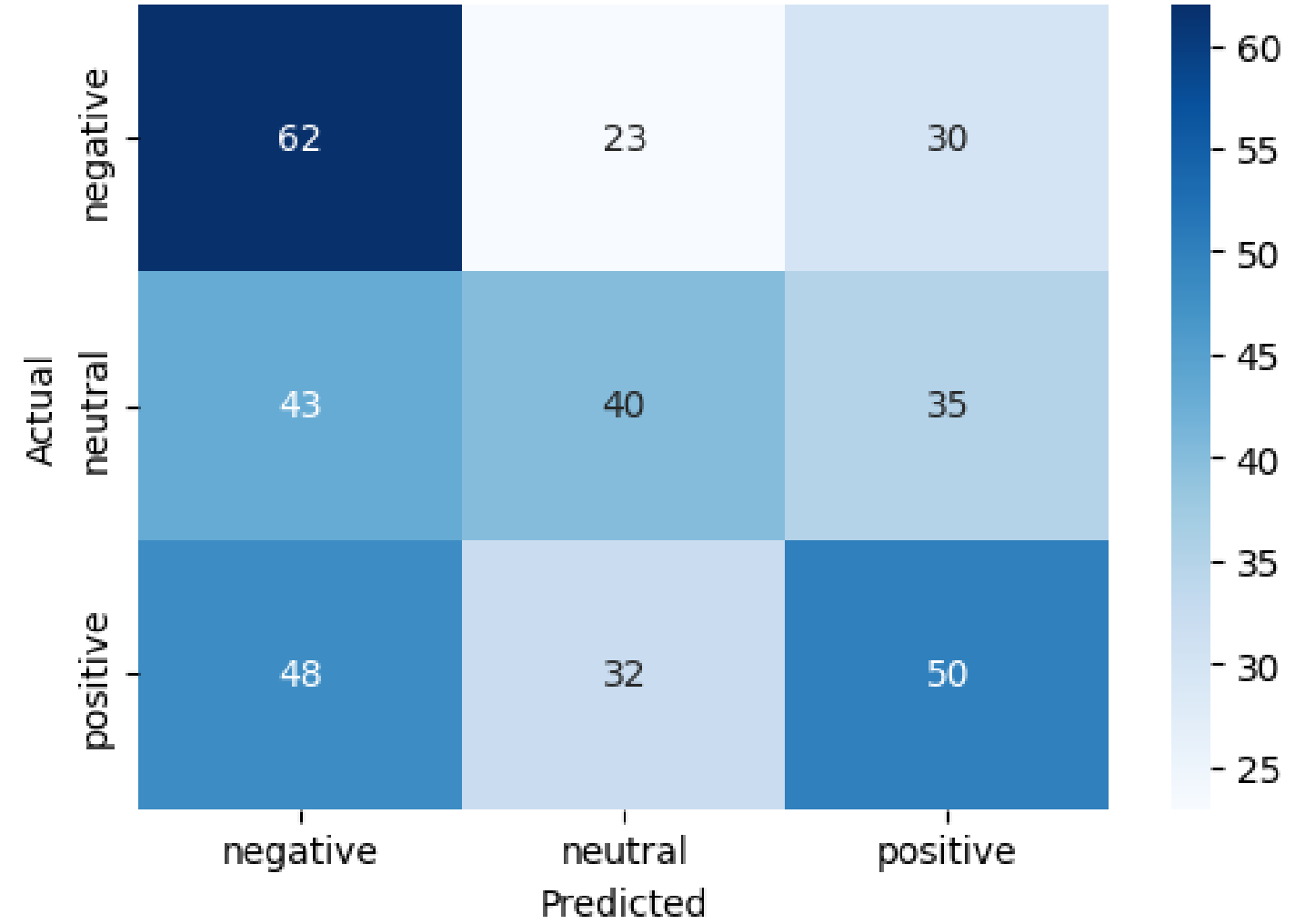
Confusion Matrix

Edit • Delete

Kaira Milani Fitria 20 Sept 2024, 18:58

3.3 Random Forest - Hyperparameter Tuning

lemmatization = nlp_id

vectorizer = **Word2Vec**

```
Best Parameters for Random Forest: {'bootstrap': True, 'max_depth': 10, 'max_features': 'sqrt',
'min_samples_leaf': 2, 'min_samples_split': 10, 'n_estimators': 50} Best Random Forest Score:
0.4772727272727273
```

```
Accuracy: 0.4187732782369146
Classification Report:
                  precision      recall    f1-score     support

     negative       0.41         0.54       0.46         115
      neutral       0.42         0.34       0.38         118
     positive       0.43         0.38       0.41         130

     accuracy                               0.42         363
    macro avg       0.42         0.42       0.42         363
 weighted avg       0.42         0.42       0.41         363
```

Confusion Matrix

• Edit • Delete

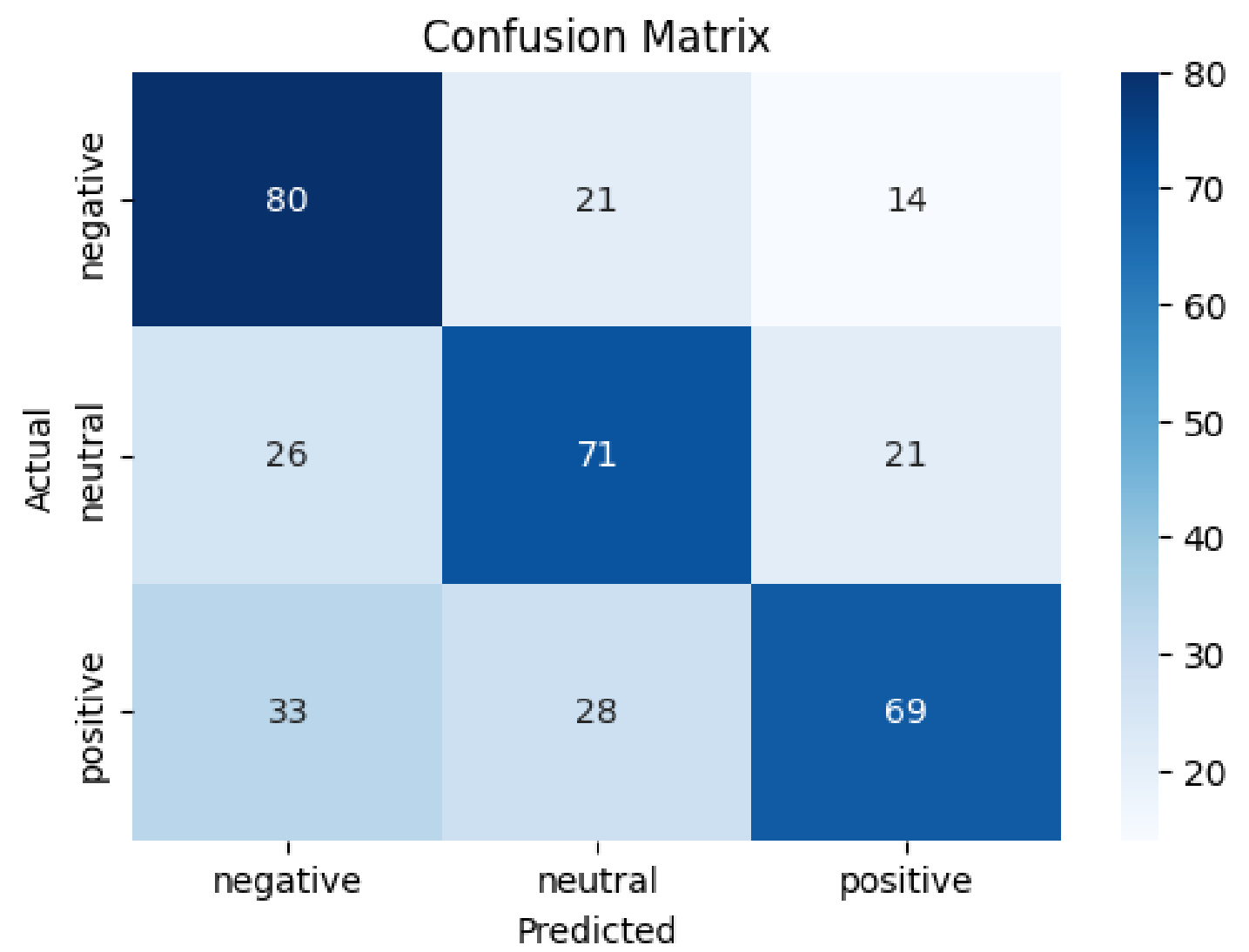# 3.2 Random Forest - Hyperparameter Tuning

lemmatization = nlp_id

vectorizer = **tf-idf**

Best Parameters for Random Forest: {'bootstrap': True, 'max_depth': None, 'max_features': 'sqrt', 'min_samples_leaf': 2, 'min_samples_split': 5, 'n_estimators': 200} Best Random Forest Score: 0.6136363636363636

```
Accuracy: 0.6060606060606061
Classification Report:
                 precision     recall   f1-score    support

     negative        0.58       0.70       0.63        115
      neutral        0.59       0.60       0.60        118
     positive        0.66       0.53       0.59        130

     accuracy                              0.61        363
    macro avg        0.61       0.61       0.61        363
 weighted avg        0.61       0.61       0.60        363
```

Confusion Matrix

3.1 Random Forest - Hyperparameter Tuning

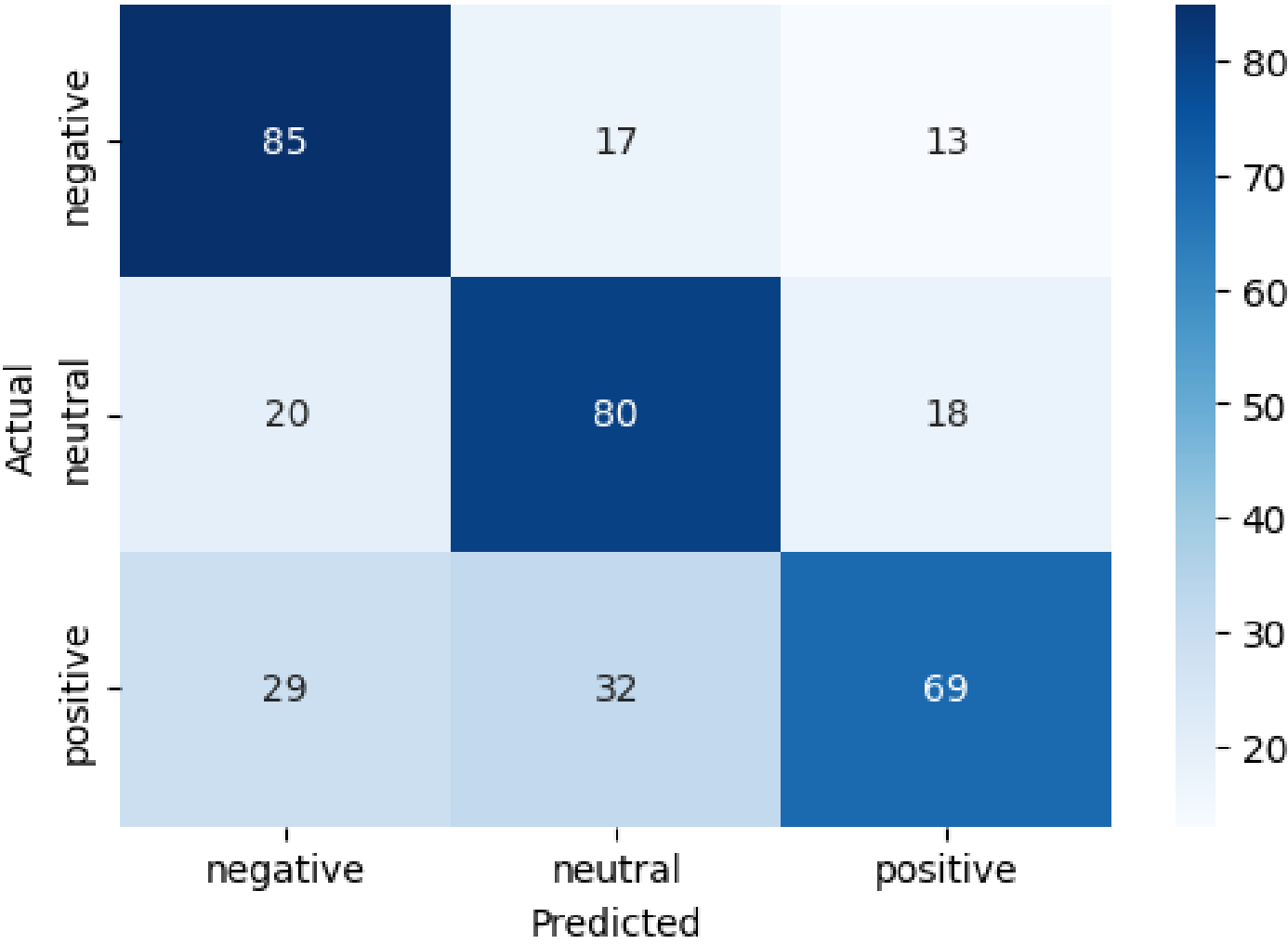**lemmatization** = nlp_id

vectorizer = CountVectorizer

```
Best Parameters for Random Forest: {'bootstrap': False, 'max_depth': 20, 'max_features': 'sqrt',
'min_samples_leaf': 1, 'min_samples_split': 5, 'n_estimators': 200} Best Random Forest Score:
0.5902203856749311
```

```
Accuracy: 0.64462800991735537
Classification Report:
                 precision     recall   f1-score    support

      negative       0.63       0.74       0.68        115
       neutral       0.62       0.68       0.65        118
      positive       0.69       0.53       0.60        130

      accuracy                             0.64        363
     macro avg       0.65       0.65       0.64        363
  weighted avg       0.65       0.64       0.64        363
```


Confusion Matrix