RESULTADOS CONJUNTO DE DATOS 20NewsGroup
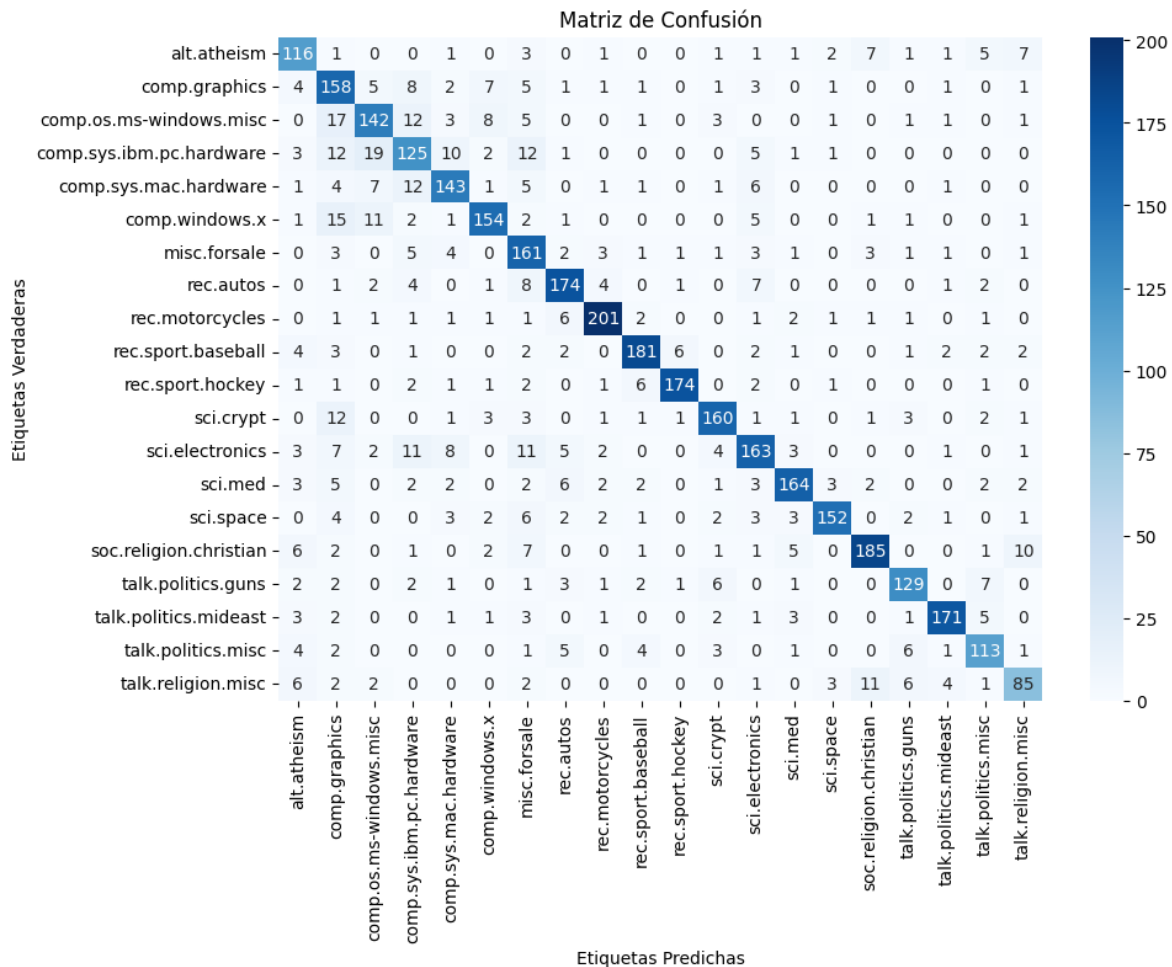
COUNT-VECTORIZER

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.74	0.78	0.76	148
comp.graphics	0.62	0.79	0.70	199
comp.os.ms-windows.misc	0.74	0.73	0.74	195
comp.sys.ibm.pc.hardware	0.66	0.65	0.66	191
comp.sys.mac.hardware	0.79	0.78	0.78	183
comp.windows.x	0.84	0.79	0.81	195
misc.forsale	0.67	0.84	0.74	191
rec.autos	0.84	0.85	0.84	205
rec.motorcycles	0.91	0.91	0.91	222
rec.sport.baseball	0.89	0.87	0.88	209
rec.sport.hockey	0.95	0.90	0.92	193
sci.crypt	0.86	0.84	0.85	191
sci.electronics	0.78	0.74	0.76	221
sci.med	0.88	0.82	0.85	201
sci.space	0.92	0.83	0.87	184
soc.religion.christian	0.88	0.83	0.85	222
talk.politics.guns	0.84	0.82	0.83	158
talk.politics.mideast	0.92	0.88	0.90	194
talk.politics.misc	0.80	0.80	0.80	141
talk.religion.misc	0.75	0.69	0.72	123
accuracy			0.81	3766
macro avg	0.81	0.81	0.81	3766
weighted avg	0.82	0.81	0.81	3766

Micro-F1 Score: 0.8101

Matriz de Confusión

Random forest

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.77	0.72	0.74	148
comp.graphics	0.69	0.78	0.73	199
comp.os.ms-windows.misc	0.74	0.76	0.75	195
comp.sys.ibm.pc.hardware	0.76	0.71	0.73	191
comp.sys.mac.hardware	0.84	0.83	0.83	183
comp.windows.x	0.83	0.83	0.83	195
misc.forsale	0.63	0.84	0.72	191
rec.autos	0.82	0.82	0.82	205
rec.motorcycles	0.96	0.93	0.94	222
rec.sport.baseball	0.92	0.91	0.92	209
rec.sport.hockey	0.90	0.96	0.93	193
sci.crypt	0.89	0.86	0.88	191
sci.electronics	0.82	0.62	0.71	221
sci.med	0.88	0.83	0.86	201
sci.space	0.83	0.90	0.87	184
soc.religion.christian	0.73	0.92	0.81	222
talk.politics.guns	0.73	0.89	0.81	158

	precision	recall	f1-score	support
talk.politics.mideast	0.95	0.92	0.93	194
talk.politics.misc	0.88	0.68	0.77	141
talk.religion.misc	0.89	0.33	0.49	123
accuracy			0.81	3766
macro avg	0.82	0.80	0.80	3766
weighted avg	0.82	0.81	0.81	3766

Micro-F1 Score: 0.8147

Matriz de Confusión
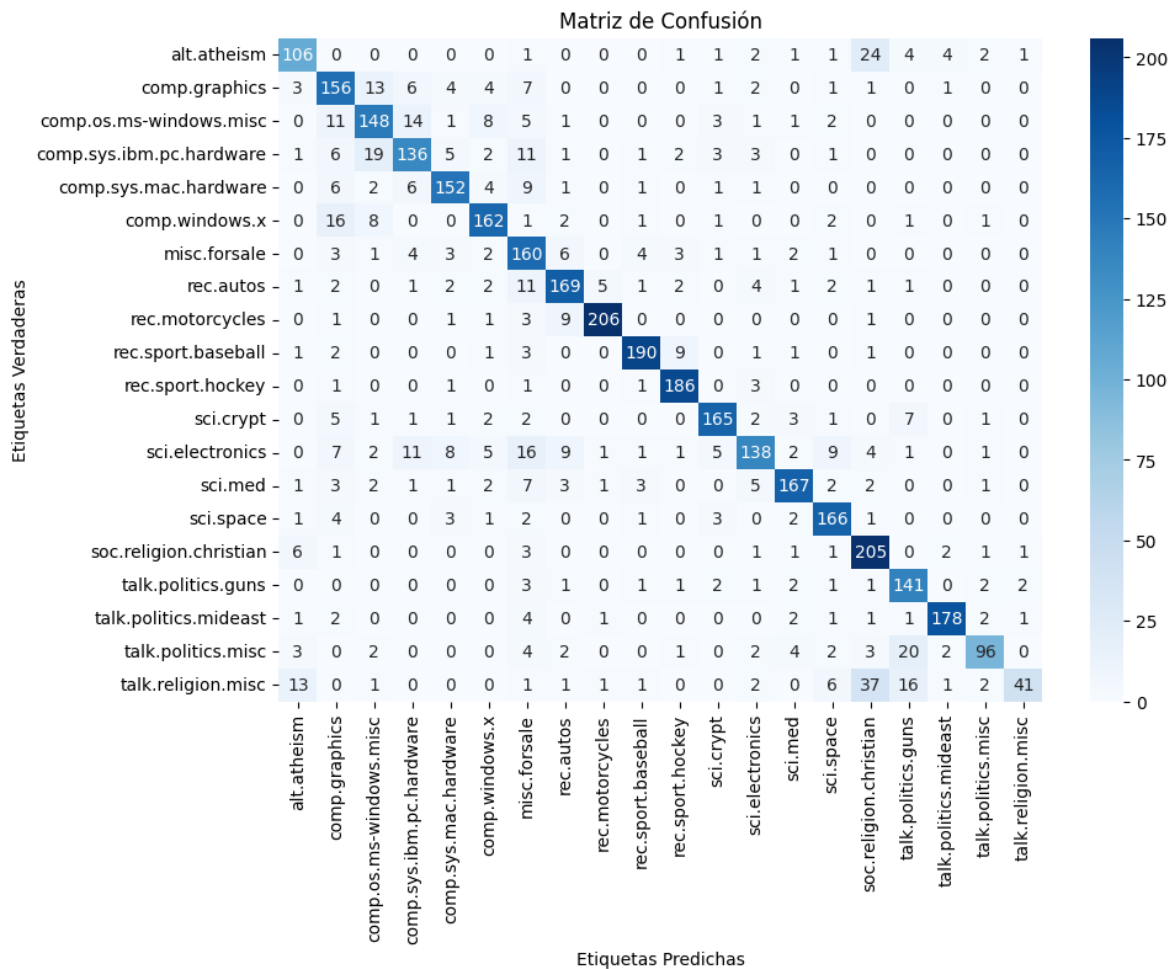
XGBOOST

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.80	0.74	0.77	148
comp.graphics	0.75	0.78	0.76	199
comp.os.ms-windows.misc	0.72	0.74	0.73	195
comp.sys.ibm.pc.hardware	0.69	0.70	0.70	191
comp.sys.mac.hardware	0.83	0.81	0.82	183
comp.windows.x	0.81	0.81	0.81	195
misc.forsale	0.73	0.80	0.76	191

rec.autos	0.87	0.84	0.86	205
rec.motorcycles	0.93	0.89	0.91	222
rec.sport.baseball	0.91	0.91	0.91	209
rec.sport.hockey	0.95	0.93	0.94	193
sci.crypt	0.92	0.85	0.88	191
sci.electronics	0.70	0.75	0.72	221
sci.med	0.84	0.84	0.84	201
sci.space	0.86	0.84	0.85	184
soc.religion.christian	0.81	0.91	0.86	222
talk.politics.guns	0.74	0.83	0.78	158
talk.politics.mideast	0.94	0.91	0.93	194
talk.politics.misc	0.80	0.74	0.77	141
talk.religion.misc	0.72	0.53	0.61	123
accuracy			0.82	3766
macro avg	0.82	0.81	0.81	3766
weighted avg	0.82	0.82	0.82	3766

Micro-F1 Score: 0.8168

Matriz de Confusión
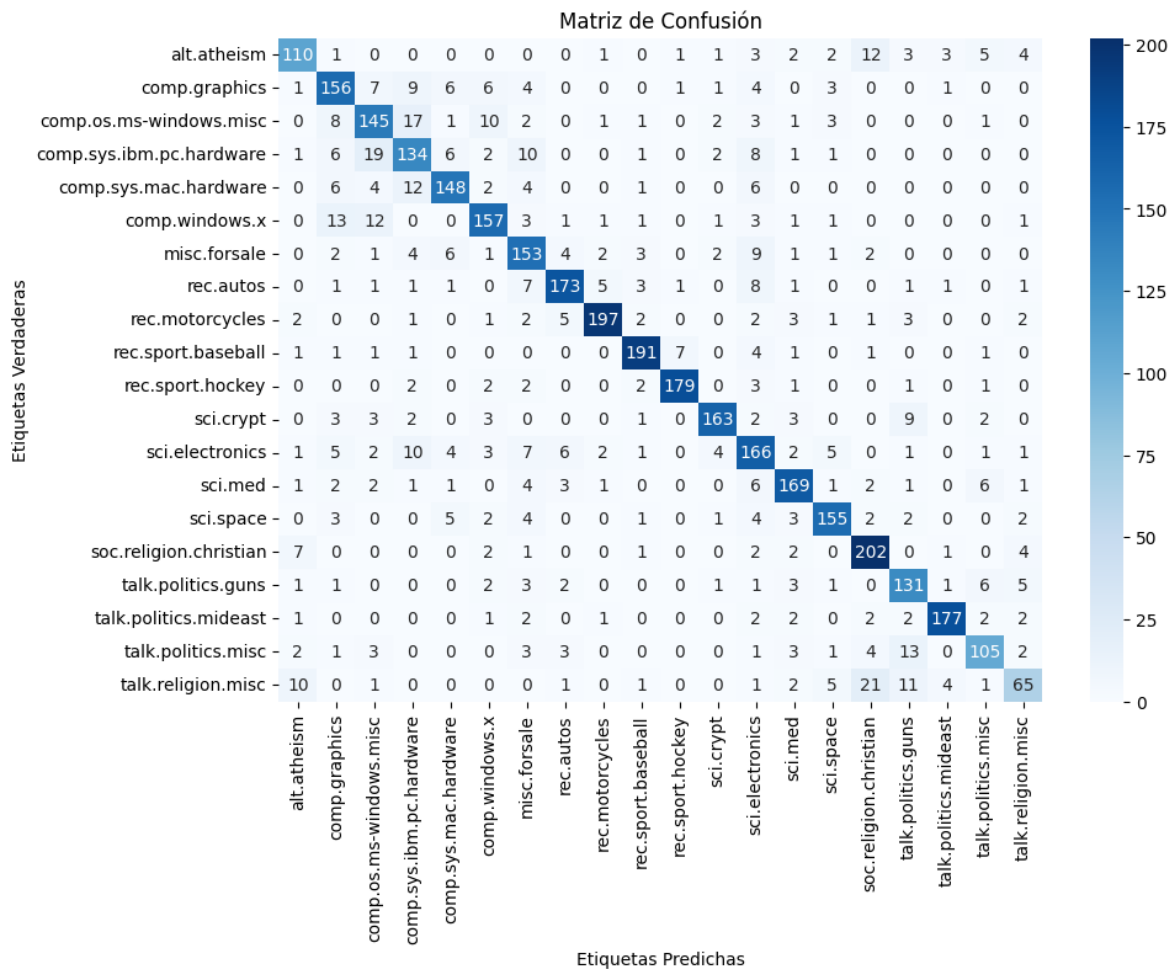
TF-IDF

SVC

```
Métricas en el conjunto de prueba:
                          precision    recall  f1-score   support

              alt.atheism       0.85      0.85      0.85       148
            comp.graphics       0.74      0.85      0.79       199
  comp.os.ms-windows.misc       0.82      0.80      0.81       195
 comp.sys.ibm.pc.hardware       0.79      0.76      0.78       191
    comp.sys.mac.hardware       0.89      0.88      0.88       183
           comp.windows.x       0.85      0.89      0.87       195
             misc.forsale       0.78      0.91      0.84       191
                rec.autos       0.91      0.90      0.90       205
          rec.motorcycles       0.97      0.96      0.97       222
       rec.sport.baseball       0.96      0.92      0.94       209
         rec.sport.hockey       0.98      0.95      0.97       193
                sci.crypt       0.97      0.90      0.93       191
          sci.electronics       0.83      0.84      0.83       221
                  sci.med       0.91      0.92      0.91       201
                sci.space       0.97      0.92      0.95       184
   soc.religion.christian       0.93      0.93      0.93       222
       talk.politics.guns       0.90      0.94      0.92       158
    talk.politics.mideast       0.96      0.95      0.96       194
       talk.politics.misc       0.91      0.88      0.89       141
       talk.religion.misc       0.88      0.76      0.82       123

                 accuracy                           0.89      3766
                macro avg       0.89      0.89      0.89      3766
             weighted avg       0.89      0.89      0.89      3766

Micro-F1 Score: 0.8882
```
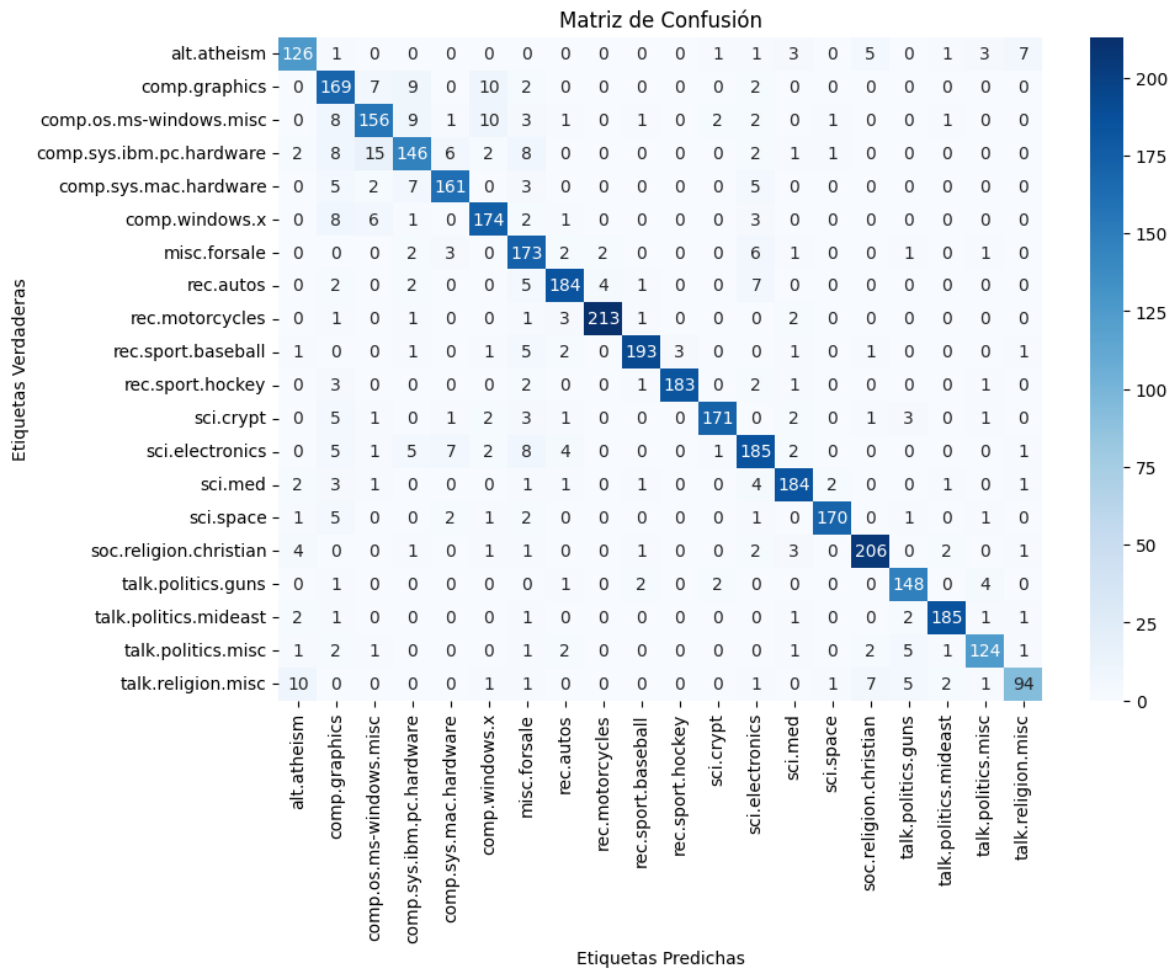
Matriz de Confusión

RF

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.77	0.72	0.74	148
comp.graphics	0.63	0.73	0.68	199
comp.os.ms-windows.misc	0.73	0.73	0.73	195
comp.sys.ibm.pc.hardware	0.70	0.70	0.70	191
comp.sys.mac.hardware	0.84	0.81	0.82	183
comp.windows.x	0.79	0.82	0.81	195
misc.forsale	0.65	0.84	0.73	191
rec.autos	0.81	0.79	0.80	205
rec.motorcycles	0.94	0.92	0.93	222
rec.sport.baseball	0.90	0.89	0.90	209
rec.sport.hockey	0.89	0.96	0.93	193
sci.crypt	0.88	0.87	0.88	191
sci.electronics	0.82	0.58	0.68	221
sci.med	0.84	0.81	0.83	201
sci.space	0.80	0.87	0.83	184
soc.religion.christian	0.72	0.93	0.81	222
talk.politics.guns	0.71	0.84	0.77	158

```
       talk.politics.mideast       0.95      0.91      0.93       194
         talk.politics.misc        0.85      0.65      0.73       141
         talk.religion.misc        0.85      0.28      0.43       123

                  accuracy                             0.80      3766
                 macro avg         0.80      0.78      0.78      3766
              weighted avg         0.80      0.80      0.79      3766
```
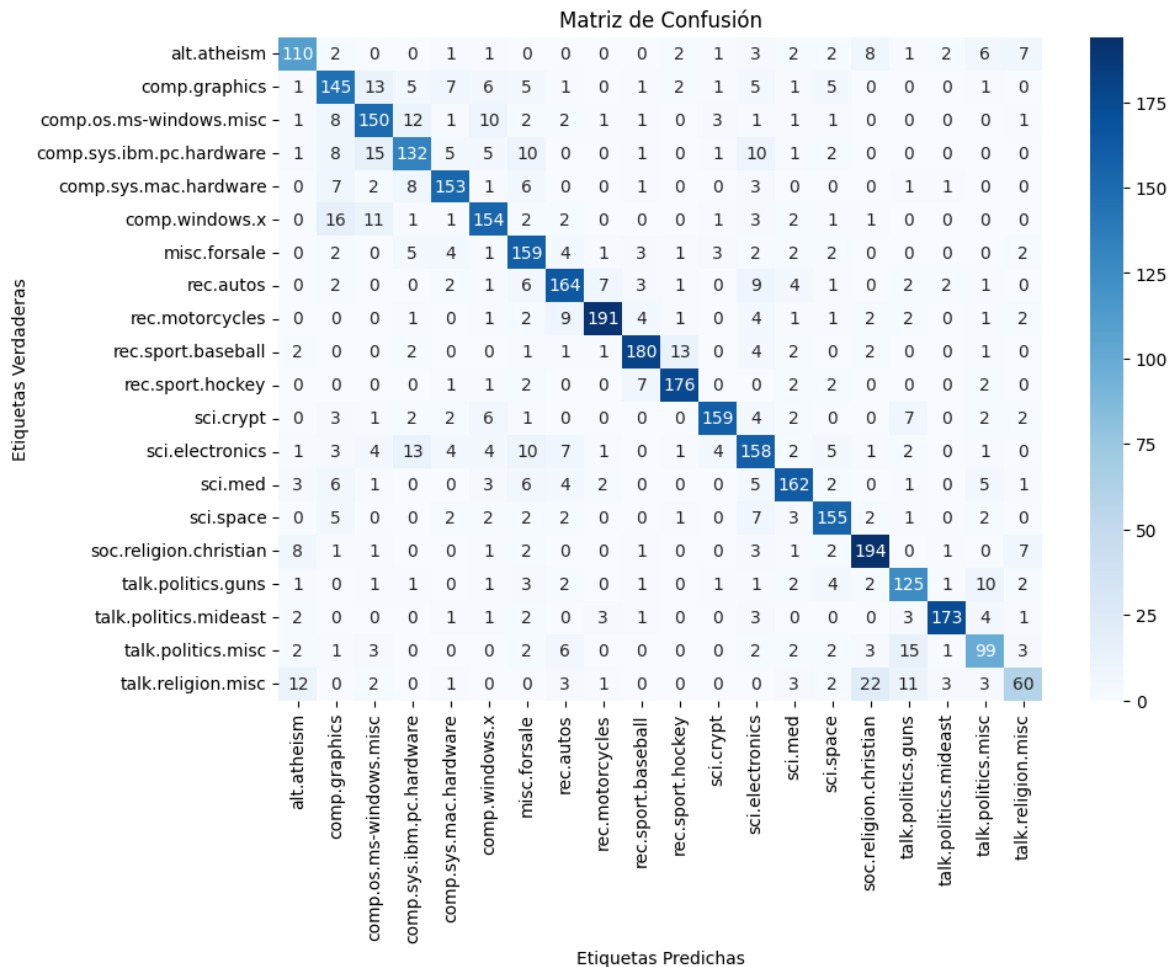
Micro-F1 Score: 0.7955

Métricas en el conjunto de prueba:

```
                               precision    recall  f1-score   support

                 alt.atheism        0.76      0.74      0.75       148
               comp.graphics        0.69      0.73      0.71       199
     comp.os.ms-windows.misc        0.74      0.77      0.75       195
    comp.sys.ibm.pc.hardware        0.73      0.69      0.71       191
       comp.sys.mac.hardware        0.83      0.84      0.83       183
              comp.windows.x        0.77      0.79      0.78       195
                misc.forsale        0.71      0.83      0.77       191
                   rec.autos        0.79      0.80      0.80       205
             rec.motorcycles        0.92      0.86      0.89       222
          rec.sport.baseball        0.88      0.86      0.87       209
            rec.sport.hockey        0.89      0.91      0.90       193
                   sci.crypt        0.91      0.83      0.87       191
             sci.electronics        0.70      0.71      0.71       221
                     sci.med        0.83      0.81      0.82       201
                   sci.space        0.82      0.84      0.83       184
      soc.religion.christian        0.82      0.87      0.85       222
          talk.politics.guns        0.73      0.79      0.76       158
       talk.politics.mideast        0.94      0.89      0.92       194
         talk.politics.misc        0.72      0.70      0.71       141
         talk.religion.misc        0.68      0.49      0.57       123

                  accuracy                             0.80      3766
                 macro avg         0.79      0.79      0.79      3766
              weighted avg         0.80      0.80      0.80      3766
```

Micro-F1 Score: 0.7963

Matriz de Confusión

word2vec-google-news-300

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.60	0.68	0.64	148
comp.graphics	0.55	0.67	0.60	199
comp.os.ms-windows.misc	0.70	0.65	0.67	195
comp.sys.ibm.pc.hardware	0.57	0.57	0.57	191
comp.sys.mac.hardware	0.62	0.57	0.60	183
comp.windows.x	0.71	0.68	0.69	195
misc.forsale	0.57	0.82	0.67	191
rec.autos	0.85	0.83	0.84	205
rec.motorcycles	0.88	0.83	0.85	222
rec.sport.baseball	0.92	0.89	0.91	209
rec.sport.hockey	0.92	0.89	0.90	193
sci.crypt	0.82	0.82	0.82	191
sci.electronics	0.73	0.68	0.70	221
sci.med	0.87	0.81	0.84	201
sci.space	0.84	0.81	0.82	184

	precision	recall	f1-score	support
soc.religion.christian	0.82	0.81	0.81	222
talk.politics.guns	0.75	0.72	0.73	158
talk.politics.mideast	0.94	0.91	0.92	194
talk.politics.misc	0.67	0.71	0.69	141
talk.religion.misc	0.68	0.51	0.59	123
accuracy			0.75	3766
macro avg	0.75	0.74	0.74	3766
weighted avg	0.76	0.75	0.75	3766

Micro-F1 Score: 0.7496

Matriz de Confusión
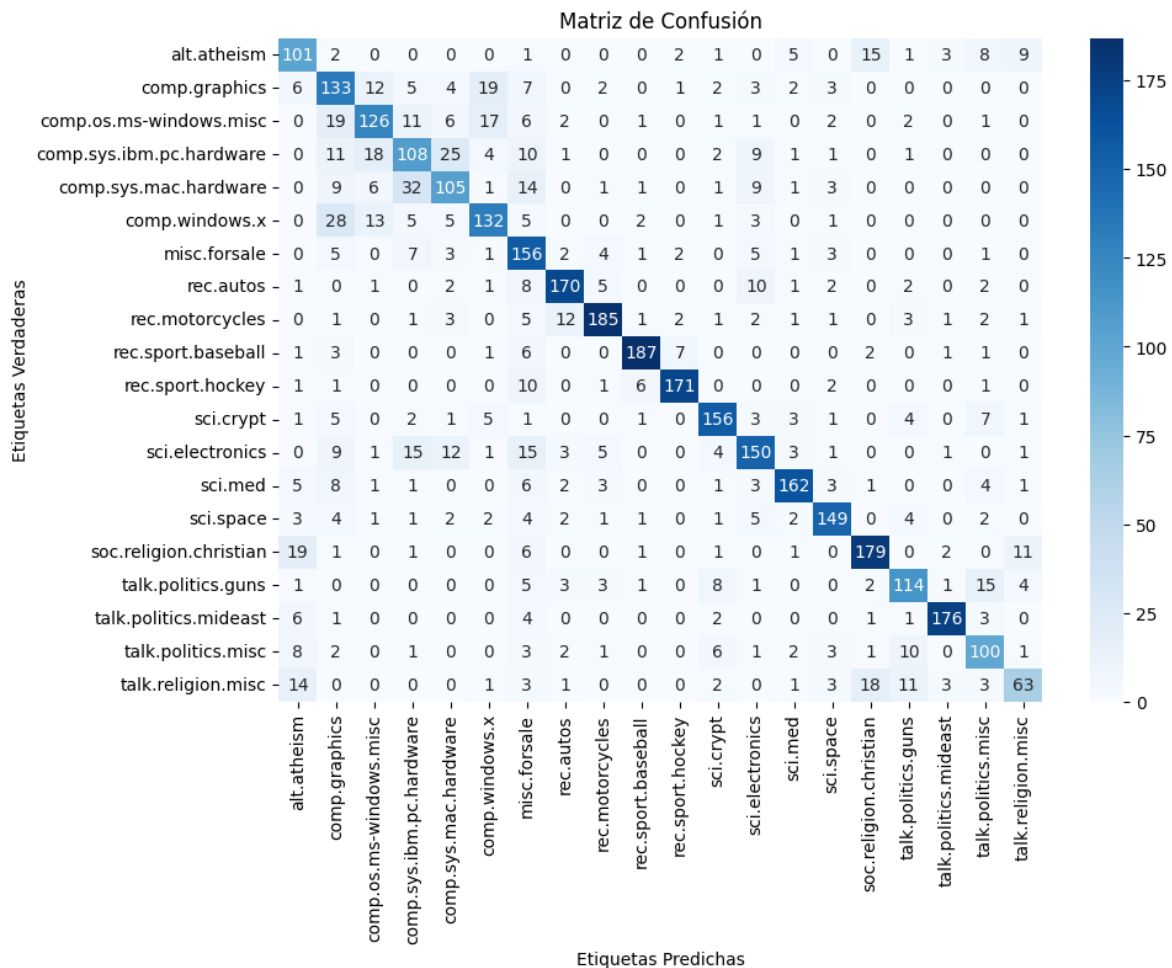
RF

XBOOST

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.57	0.59	0.58	148
comp.graphics	0.64	0.73	0.68	199
comp.os.ms-windows.misc	0.67	0.62	0.64	195

```
       comp.sys.ibm.pc.hardware       0.62      0.58      0.60       191
          comp.sys.mac.hardware       0.63      0.59      0.61       183
                 comp.windows.x       0.66      0.70      0.68       195
                   misc.forsale       0.64      0.83      0.72       191
                      rec.autos       0.87      0.78      0.82       205
                rec.motorcycles       0.75      0.79      0.77       222
             rec.sport.baseball       0.87      0.83      0.85       209
               rec.sport.hockey       0.85      0.91      0.88       193
                      sci.crypt       0.82      0.79      0.81       191
                sci.electronics       0.74      0.65      0.69       221
                        sci.med       0.90      0.83      0.86       201
                      sci.space       0.85      0.78      0.81       184
         soc.religion.christian       0.75      0.83      0.79       222
             talk.politics.guns       0.66      0.78      0.72       158
          talk.politics.mideast       0.83      0.84      0.84       194
             talk.politics.misc       0.60      0.65      0.62       141
             talk.religion.misc       0.59      0.33      0.42       123

                       accuracy                           0.73      3766
                      macro avg       0.73      0.72      0.72      3766
                   weighted avg       0.73      0.73      0.73      3766

Micro-F1 Score: 0.7323
```
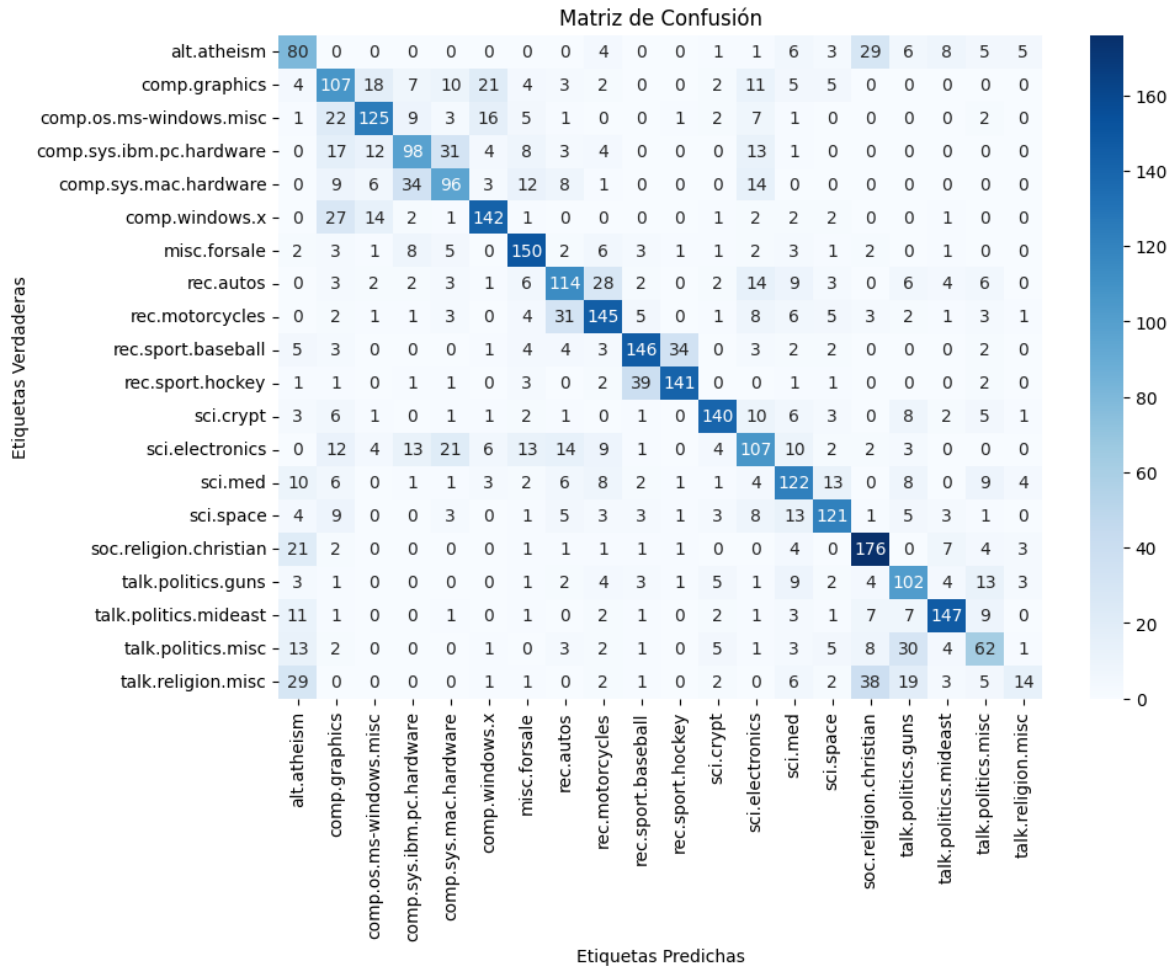
Matriz de Confusión
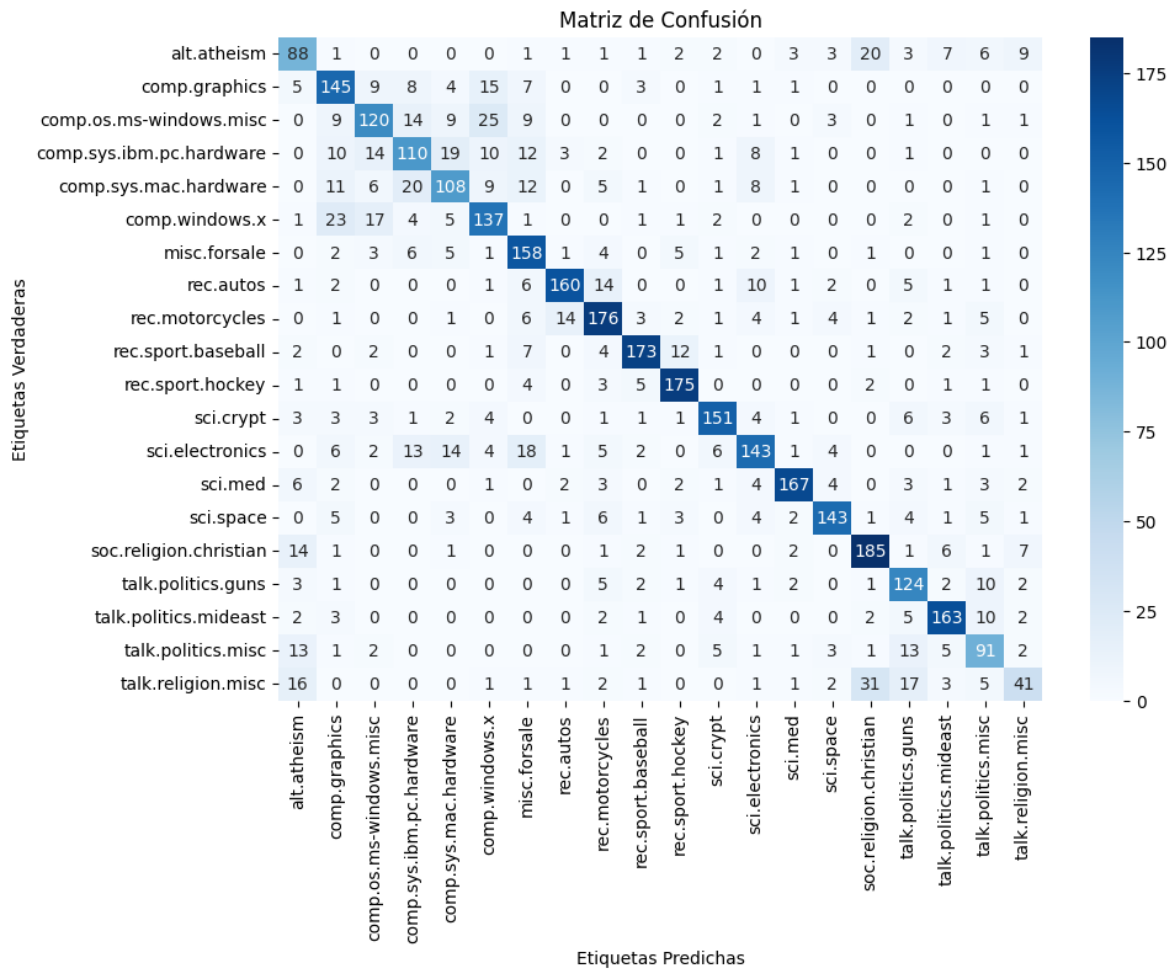
Word2-to-vect Entrenado 100

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.43	0.54	0.48	148
comp.graphics	0.46	0.54	0.50	199
comp.os.ms-windows.misc	0.68	0.64	0.66	195
comp.sys.ibm.pc.hardware	0.56	0.51	0.53	191
comp.sys.mac.hardware	0.53	0.52	0.53	183
comp.windows.x	0.71	0.73	0.72	195
misc.forsale	0.68	0.79	0.73	191
rec.autos	0.58	0.56	0.57	205
rec.motorcycles	0.64	0.65	0.65	222
rec.sport.baseball	0.70	0.70	0.70	209
rec.sport.hockey	0.78	0.73	0.75	193
sci.crypt	0.81	0.73	0.77	191
sci.electronics	0.52	0.48	0.50	221
sci.med	0.58	0.61	0.59	201
sci.space	0.71	0.66	0.68	184
soc.religion.christian	0.65	0.79	0.72	222

```
      talk.politics.guns       0.52        0.65        0.58         158
   talk.politics.mideast       0.79        0.76        0.78         194
      talk.politics.misc       0.48        0.44        0.46         141
      talk.religion.misc       0.44        0.11        0.18         123

                accuracy                               0.62        3766
               macro avg       0.61        0.61        0.60        3766
            weighted avg       0.62        0.62        0.62        3766
```

Micro-F1 Score: 0.6200

Matriz de Confusión

Random Forest

```
Métricas en el conjunto de prueba:
                          precision      recall   f1-score      support

             alt.atheism       0.45        0.53       0.48          148
           comp.graphics       0.45        0.45       0.45          199
   comp.os.ms-windows.misc     0.60        0.56       0.58          195
 comp.sys.ibm.pc.hardware      0.56        0.43       0.49          191
    comp.sys.mac.hardware      0.44        0.45       0.45          183
           comp.windows.x       0.64        0.68       0.66          195
```

misc.forsale	0.58	0.74	0.65	191
rec.autos	0.51	0.49	0.50	205
rec.motorcycles	0.53	0.63	0.57	222
rec.sport.baseball	0.62	0.67	0.64	209
rec.sport.hockey	0.74	0.68	0.71	193
sci.crypt	0.75	0.69	0.72	191
sci.electronics	0.46	0.38	0.42	221
sci.med	0.55	0.59	0.57	201
sci.space	0.56	0.65	0.60	184
soc.religion.christian	0.66	0.72	0.69	222
talk.politics.guns	0.51	0.61	0.55	158
talk.politics.mideast	0.73	0.73	0.73	194
talk.politics.misc	0.51	0.38	0.44	141
talk.religion.misc	0.50	0.14	0.22	123
accuracy			0.57	3766
macro avg	0.57	0.56	0.56	3766
weighted avg	0.57	0.57	0.56	3766

Micro-F1 Score: 0.5714

Matriz de Confusión
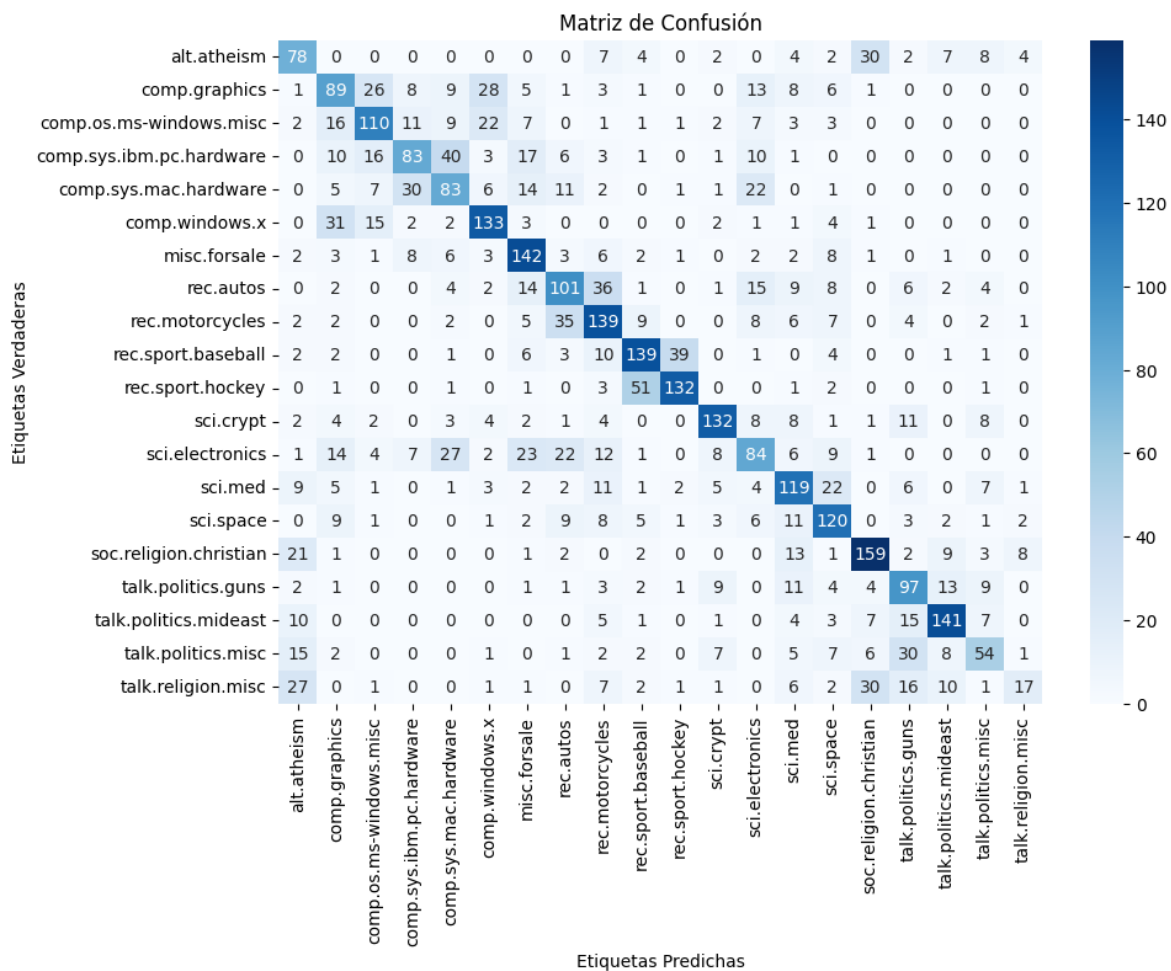
XGBOOTS

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.44	0.49	0.46	148
comp.graphics	0.47	0.50	0.49	199
comp.os.ms-windows.misc	0.62	0.58	0.60	195
comp.sys.ibm.pc.hardware	0.48	0.44	0.46	191
comp.sys.mac.hardware	0.38	0.37	0.37	183
comp.windows.x	0.66	0.66	0.66	195
misc.forsale	0.62	0.75	0.68	191
rec.autos	0.56	0.52	0.54	205
rec.motorcycles	0.52	0.60	0.56	222
rec.sport.baseball	0.62	0.57	0.60	209
rec.sport.hockey	0.69	0.70	0.69	193
sci.crypt	0.78	0.71	0.74	191
sci.electronics	0.44	0.41	0.43	221
sci.med	0.51	0.57	0.54	201
sci.space	0.65	0.64	0.65	184
soc.religion.christian	0.65	0.75	0.69	222
talk.politics.guns	0.54	0.59	0.56	158
talk.politics.mideast	0.78	0.72	0.75	194
talk.politics.misc	0.39	0.38	0.38	141
talk.religion.misc	0.31	0.15	0.21	123
accuracy			0.57	3766
macro avg	0.56	0.56	0.55	3766
weighted avg	0.56	0.57	0.56	3766

Micro-F1 Score: 0.5666

Matriz de Confusión
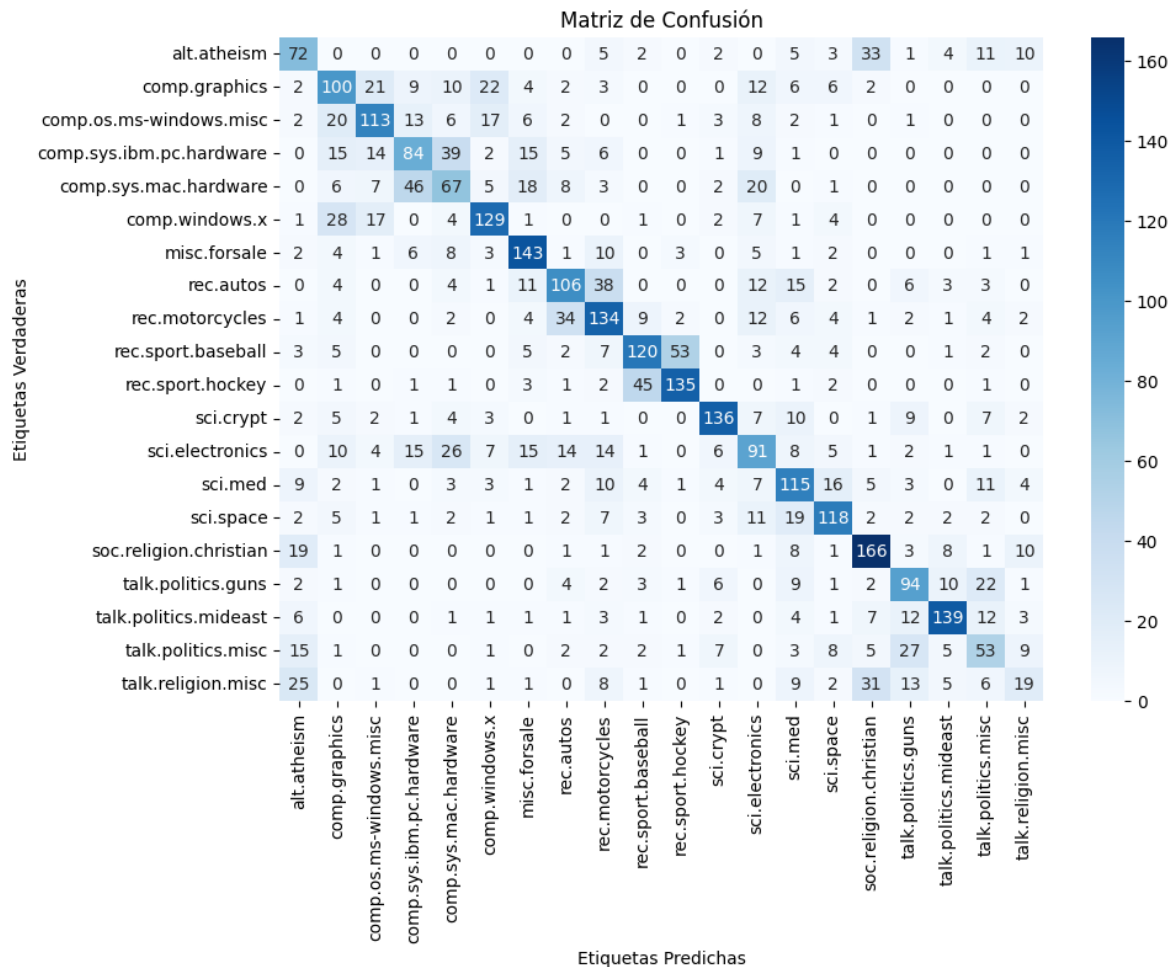
W2C-300

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.40	0.50	0.44	148
comp.graphics	0.47	0.51	0.49	199
comp.os.ms-windows.misc	0.63	0.62	0.62	195
comp.sys.ibm.pc.hardware	0.55	0.49	0.52	191
comp.sys.mac.hardware	0.50	0.50	0.50	183
comp.windows.x	0.71	0.73	0.72	195
misc.forsale	0.67	0.79	0.72	191
rec.autos	0.60	0.58	0.59	205
rec.motorcycles	0.60	0.64	0.62	222
rec.sport.baseball	0.66	0.66	0.66	209
rec.sport.hockey	0.73	0.70	0.71	193
sci.crypt	0.83	0.73	0.78	191
sci.electronics	0.52	0.49	0.51	221
sci.med	0.55	0.58	0.56	201
sci.space	0.69	0.65	0.67	184

soc.religion.christian	0.61	0.78	0.69	222
talk.politics.guns	0.51	0.66	0.58	158
talk.politics.mideast	0.76	0.71	0.74	194
talk.politics.misc	0.48	0.41	0.44	141
talk.religion.misc	0.35	0.06	0.10	123
accuracy			0.60	3766
macro avg	0.59	0.59	0.58	3766
weighted avg	0.60	0.60	0.60	3766

Micro-F1 Score: 0.6028

Matriz de Confusión

RF
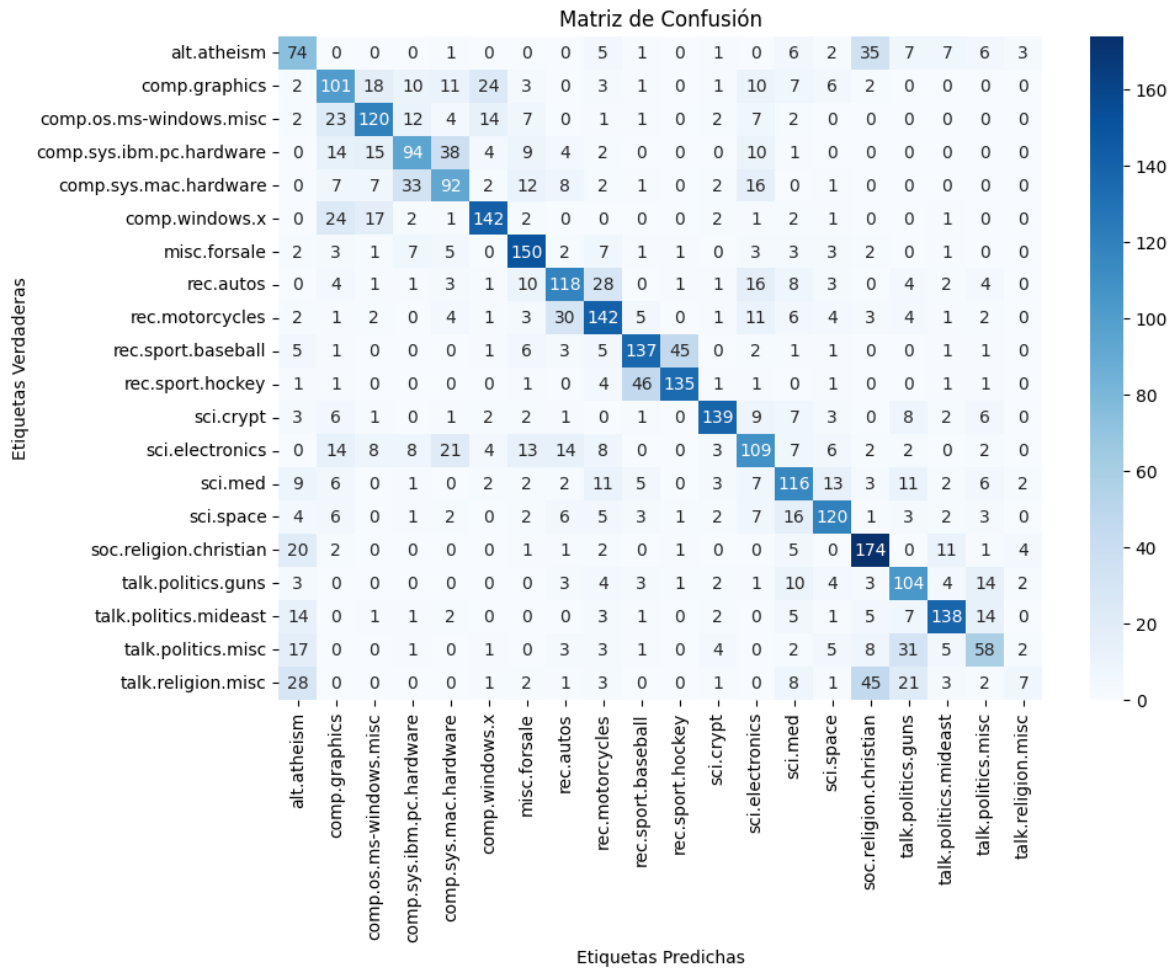
Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.42	0.51	0.46	148
comp.graphics	0.44	0.48	0.46	199
comp.os.ms-windows.misc	0.58	0.55	0.57	195
comp.sys.ibm.pc.hardware	0.51	0.40	0.45	191
comp.sys.mac.hardware	0.42	0.42	0.42	183
comp.windows.x	0.66	0.68	0.67	195
misc.forsale	0.58	0.74	0.65	191
rec.autos	0.52	0.49	0.51	205
rec.motorcycles	0.54	0.61	0.57	222
rec.sport.baseball	0.58	0.64	0.61	209
rec.sport.hockey	0.72	0.68	0.70	193
sci.crypt	0.77	0.68	0.72	191
sci.electronics	0.51	0.43	0.47	221
sci.med	0.51	0.57	0.54	201
sci.space	0.57	0.60	0.59	184
soc.religion.christian	0.67	0.71	0.69	222
talk.politics.guns	0.48	0.61	0.54	158
talk.politics.mideast	0.71	0.74	0.72	194
talk.politics.misc	0.42	0.33	0.37	141
talk.religion.misc	0.47	0.12	0.19	123
accuracy			0.56	3766
macro avg	0.55	0.55	0.54	3766
weighted avg	0.56	0.56	0.56	3766

Micro-F1 Score: 0.5616

Matriz de Confusión
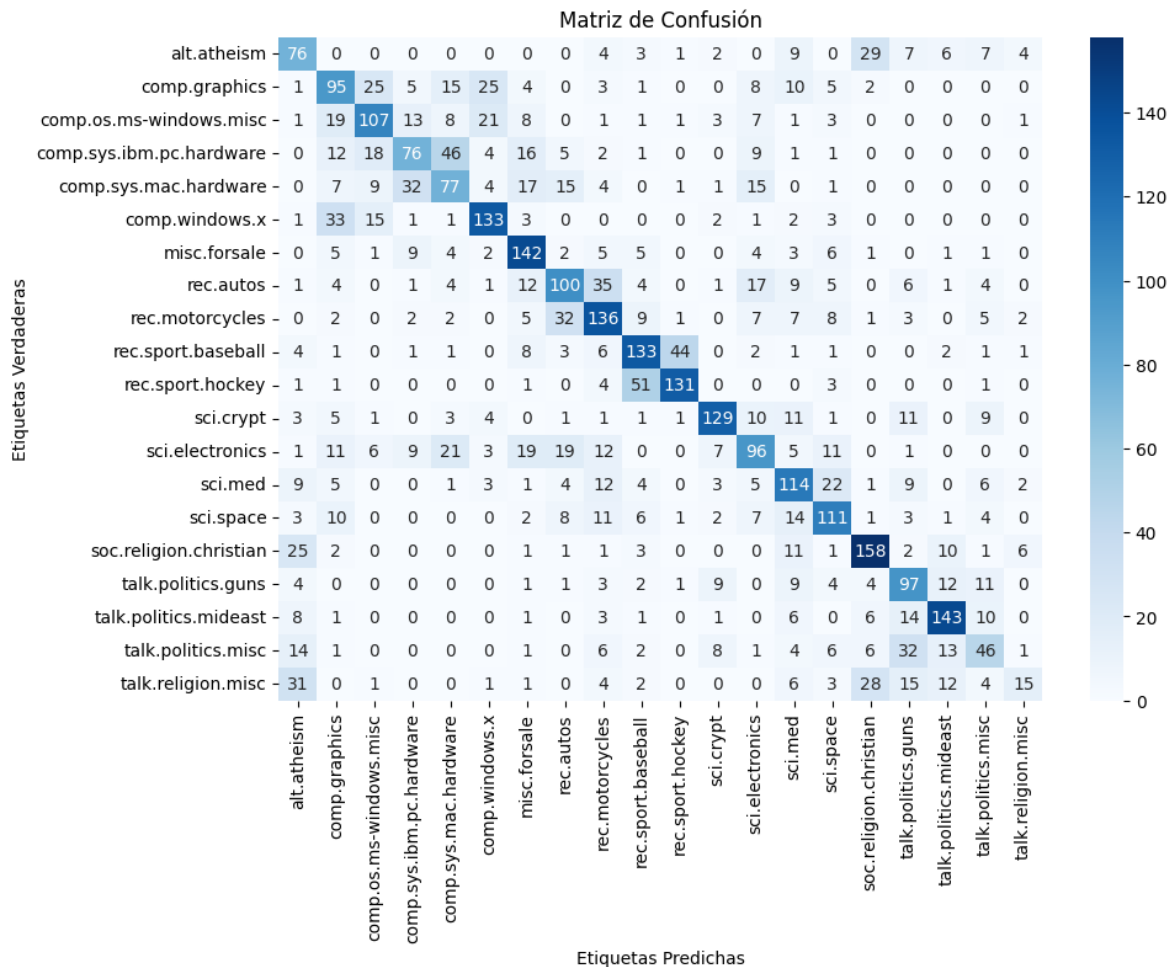
glove-wiki-gigaword-100

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.60	0.68	0.64	148
comp.graphics	0.55	0.67	0.60	199
comp.os.ms-windows.misc	0.70	0.65	0.67	195
comp.sys.ibm.pc.hardware	0.57	0.57	0.57	191
comp.sys.mac.hardware	0.62	0.57	0.60	183
comp.windows.x	0.71	0.68	0.69	195
misc.forsale	0.57	0.82	0.67	191
rec.autos	0.85	0.83	0.84	205
rec.motorcycles	0.88	0.83	0.85	222
rec.sport.baseball	0.92	0.89	0.91	209
rec.sport.hockey	0.92	0.89	0.90	193
sci.crypt	0.82	0.82	0.82	191
sci.electronics	0.73	0.68	0.70	221
sci.med	0.87	0.81	0.84	201

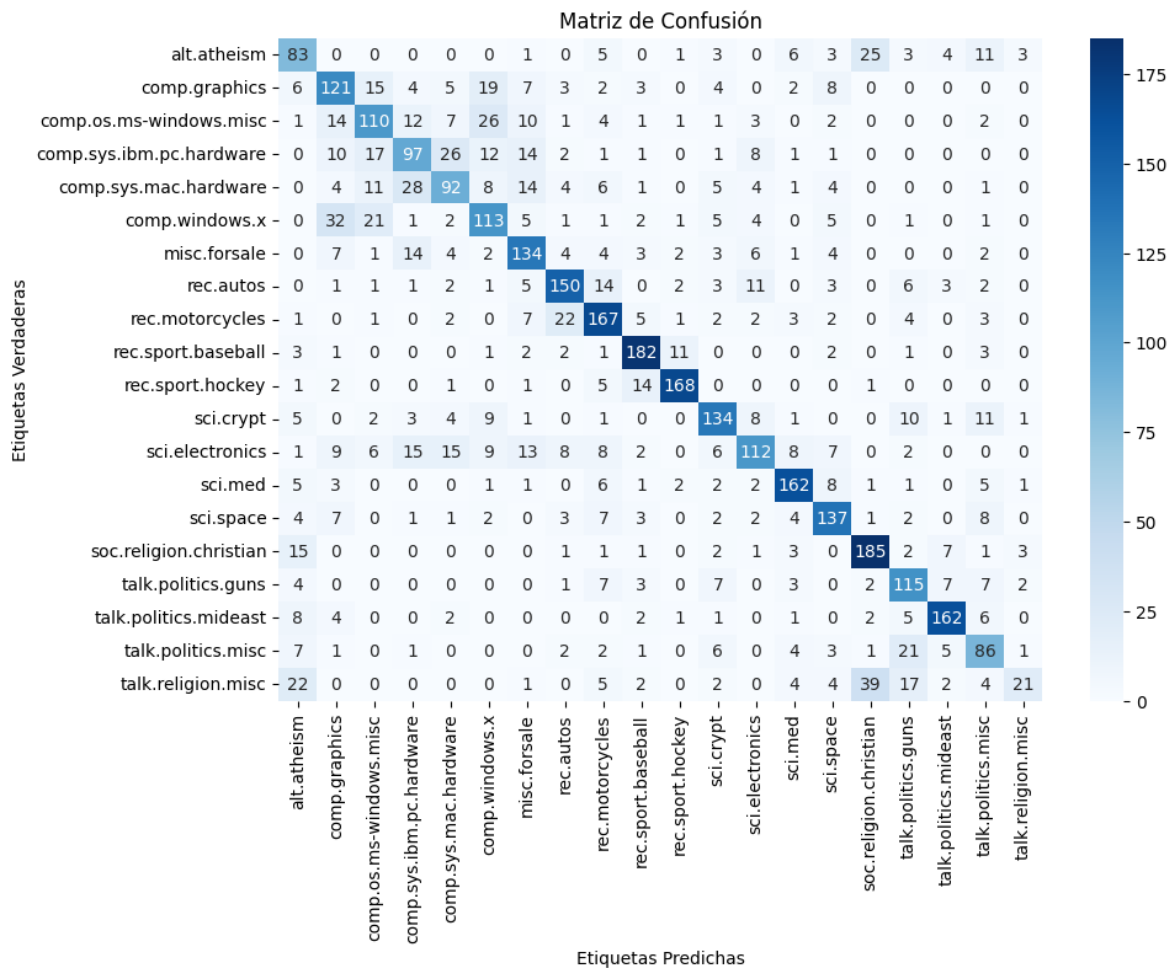|	precision	recall	f1-score	support
sci.space	0.84	0.81	0.82	184
soc.religion.christian	0.82	0.81	0.81	222
talk.politics.guns	0.75	0.72	0.73	158
talk.politics.mideast	0.94	0.91	0.92	194
talk.politics.misc	0.67	0.71	0.69	141
talk.religion.misc	0.68	0.51	0.59	123
accuracy			0.75	3766
macro avg	0.75	0.74	0.74	3766
weighted avg	0.76	0.75	0.75	3766

Micro-F1 Score: 0.7496

Matriz de Confusión

RF

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.50	0.56	0.53	148
comp.graphics	0.56	0.61	0.58	199
comp.os.ms-windows.misc	0.59	0.56	0.58	195
comp.sys.ibm.pc.hardware	0.55	0.51	0.53	191

comp.sys.mac.hardware	0.56	0.50	0.53	183
comp.windows.x	0.56	0.58	0.57	195
misc.forsale	0.62	0.70	0.66	191
rec.autos	0.74	0.73	0.73	205
rec.motorcycles	0.68	0.75	0.71	222
rec.sport.baseball	0.80	0.87	0.83	209
rec.sport.hockey	0.88	0.87	0.88	193
sci.crypt	0.71	0.70	0.71	191
sci.electronics	0.69	0.51	0.58	221
sci.med	0.79	0.81	0.80	201
sci.space	0.71	0.74	0.73	184
soc.religion.christian	0.72	0.83	0.77	222
talk.politics.guns	0.61	0.73	0.66	158
talk.politics.mideast	0.85	0.84	0.84	194
talk.politics.misc	0.56	0.61	0.59	141
talk.religion.misc	0.66	0.17	0.27	123
accuracy			0.67	3766
macro avg	0.67	0.66	0.65	3766
weighted avg	0.67	0.67	0.67	3766

Micro-F1 Score: 0.6721

Matriz de Confusión

XBOOT

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.53	0.57	0.55	148
comp.graphics	0.54	0.58	0.56	199
comp.os.ms-windows.misc	0.58	0.55	0.57	195
comp.sys.ibm.pc.hardware	0.53	0.49	0.51	191
comp.sys.mac.hardware	0.54	0.55	0.54	183
comp.windows.x	0.58	0.62	0.60	195
misc.forsale	0.62	0.73	0.67	191
rec.autos	0.77	0.72	0.74	205
rec.motorcycles	0.76	0.75	0.76	222
rec.sport.baseball	0.83	0.88	0.86	209
rec.sport.hockey	0.89	0.84	0.86	193
sci.crypt	0.77	0.78	0.78	191
sci.electronics	0.63	0.57	0.60	221
sci.med	0.84	0.80	0.82	201
sci.space	0.75	0.77	0.76	184
soc.religion.christian	0.74	0.81	0.77	222
talk.politics.guns	0.62	0.70	0.66	158
talk.politics.mideast	0.87	0.85	0.86	194
talk.politics.misc	0.58	0.61	0.59	141
talk.religion.misc	0.57	0.30	0.39	123
accuracy			0.68	3766
macro avg	0.68	0.67	0.67	3766
weighted avg	0.69	0.68	0.68	3766

Micro-F1 Score: 0.6848

Matriz de Confusión
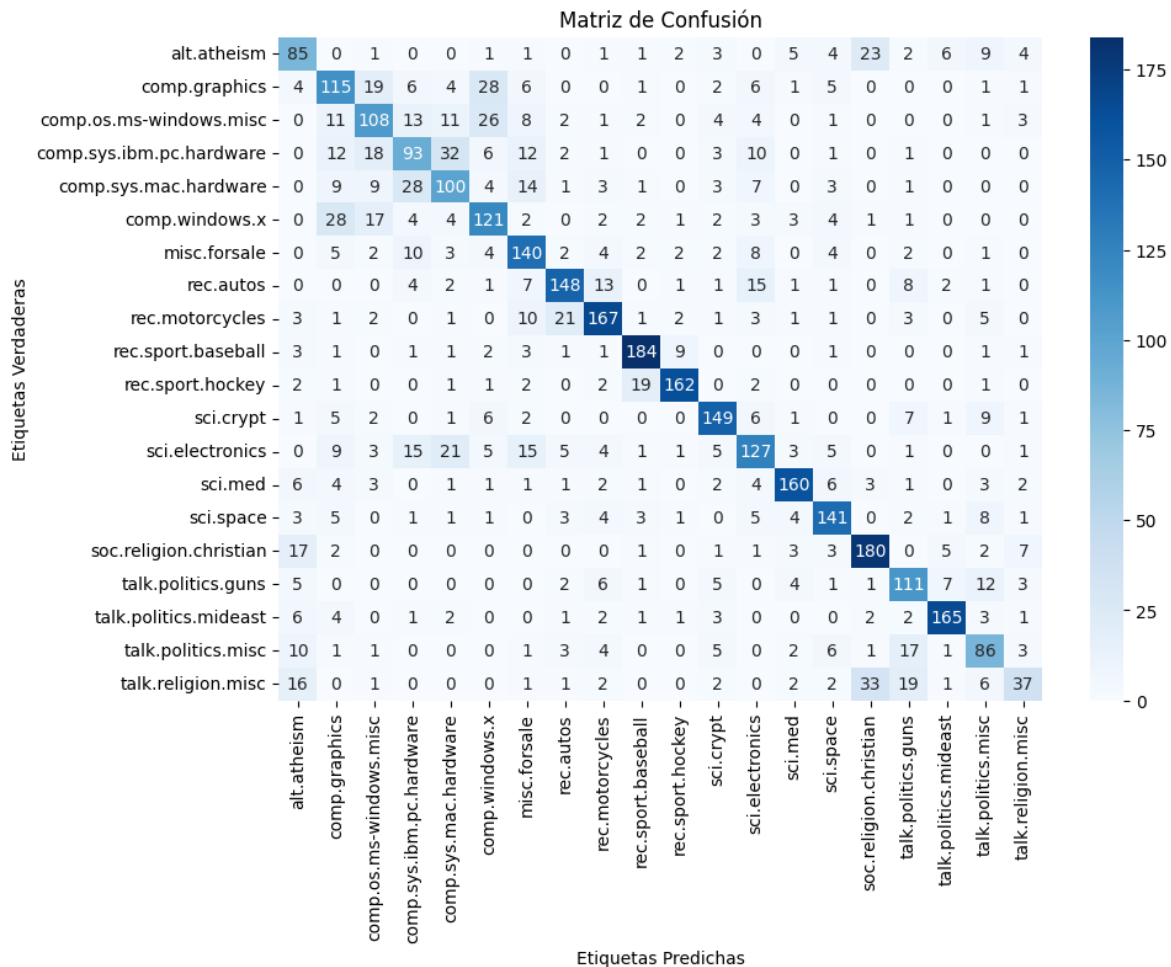
glove-wiki-gigaword-300

SVC

```
Métricas en el conjunto de prueba:
                         precision    recall   f1-score    support

              alt.atheism        0.58      0.64       0.61        148
            comp.graphics        0.61      0.70       0.65        199
    comp.os.ms-windows.misc      0.67      0.65       0.66        195
   comp.sys.ibm.pc.hardware      0.67      0.65       0.66        191
     comp.sys.mac.hardware       0.69      0.71       0.70        183
            comp.windows.x       0.71      0.71       0.71        195
             misc.forsale       0.72      0.81       0.76        191
                rec.autos       0.88      0.82       0.85        205
          rec.motorcycles       0.88      0.86       0.87        222
        rec.sport.baseball       0.93      0.91       0.92        209
          rec.sport.hockey       0.94      0.94       0.94        193
                sci.crypt       0.84      0.82       0.83        191
          sci.electronics       0.76      0.70       0.73        221
                  sci.med       0.89      0.85       0.87        201
```
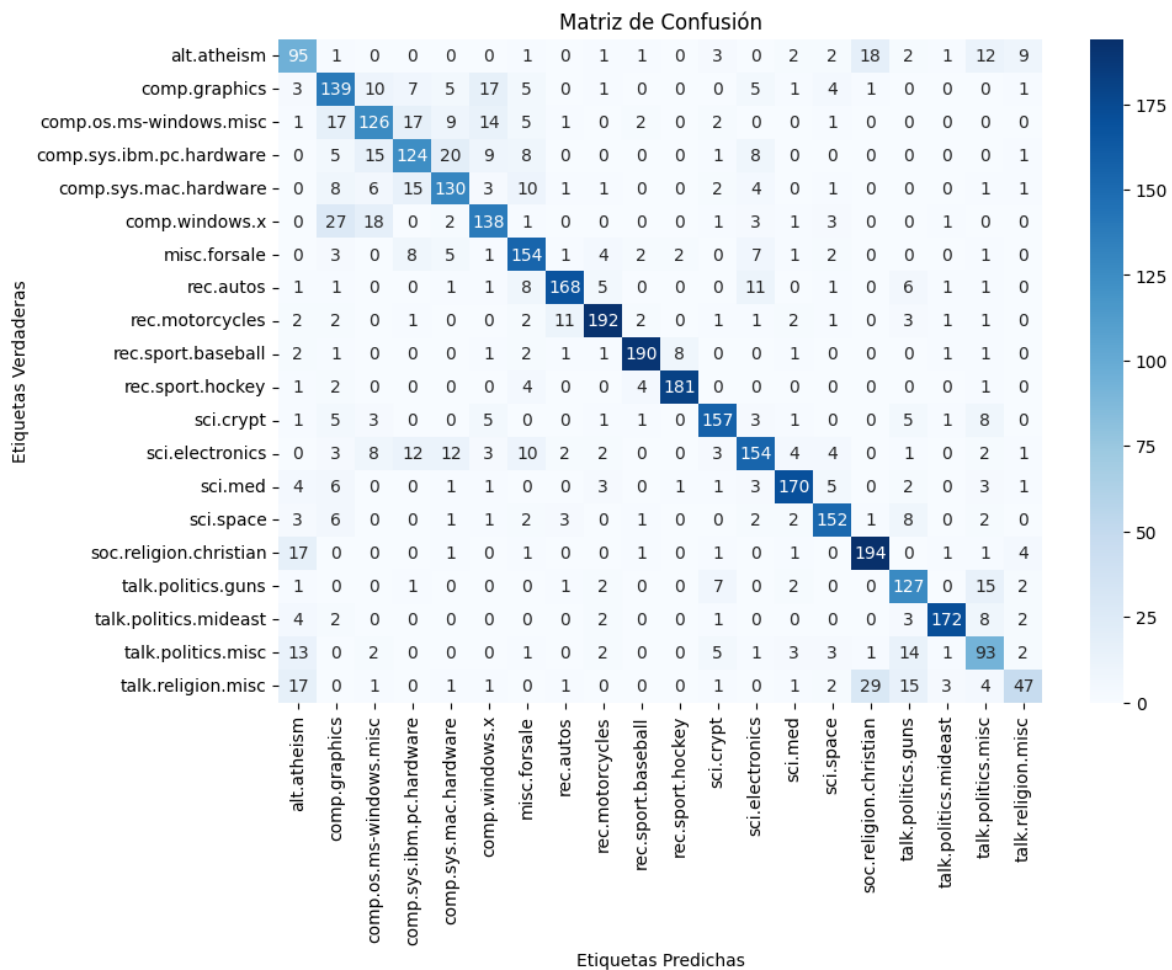
	precision	recall	f1-score	support
sci.space	0.84	0.83	0.83	184
soc.religion.christian	0.80	0.87	0.83	222
talk.politics.guns	0.68	0.80	0.74	158
talk.politics.mideast	0.94	0.89	0.91	194
talk.politics.misc	0.60	0.66	0.63	141
talk.religion.misc	0.66	0.38	0.48	123
accuracy			0.77	3766
macro avg	0.76	0.76	0.76	3766
weighted avg	0.77	0.77	0.77	3766

Micro-F1 Score: 0.7708

Matriz de Confusión

RF

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.52	0.59	0.55	148
comp.graphics	0.62	0.61	0.61	199

```
         comp.os.ms-windows.misc       0.64      0.64      0.64       195
       comp.sys.ibm.pc.hardware        0.59      0.57      0.58       191
          comp.sys.mac.hardware        0.68      0.56      0.61       183
                  comp.windows.x        0.66      0.68      0.67       195
                    misc.forsale        0.65      0.76      0.70       191
                       rec.autos        0.81      0.77      0.79       205
                 rec.motorcycles        0.72      0.82      0.77       222
              rec.sport.baseball        0.85      0.90      0.88       209
                rec.sport.hockey        0.89      0.91      0.90       193
                       sci.crypt        0.73      0.75      0.74       191
                 sci.electronics        0.71      0.59      0.64       221
                         sci.med        0.83      0.84      0.83       201
                       sci.space        0.77      0.78      0.77       184
          soc.religion.christian        0.73      0.85      0.79       222
              talk.politics.guns        0.61      0.80      0.69       158
           talk.politics.mideast        0.87      0.84      0.85       194
              talk.politics.misc        0.67      0.63      0.65       141
              talk.religion.misc        0.80      0.20      0.31       123

                        accuracy                            0.72      3766
                       macro avg        0.72      0.70      0.70      3766
                    weighted avg        0.72      0.72      0.71      3766

Micro-F1 Score: 0.7175
```
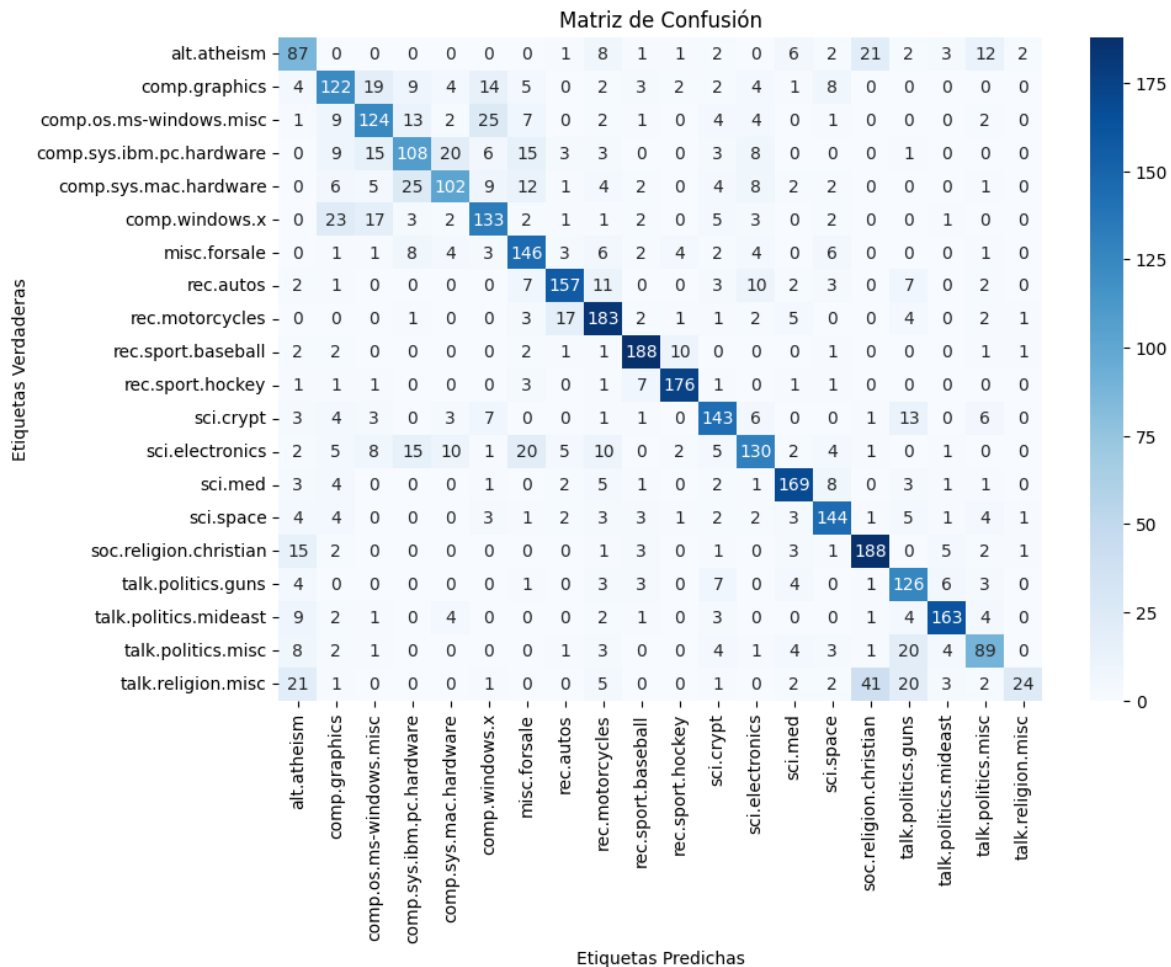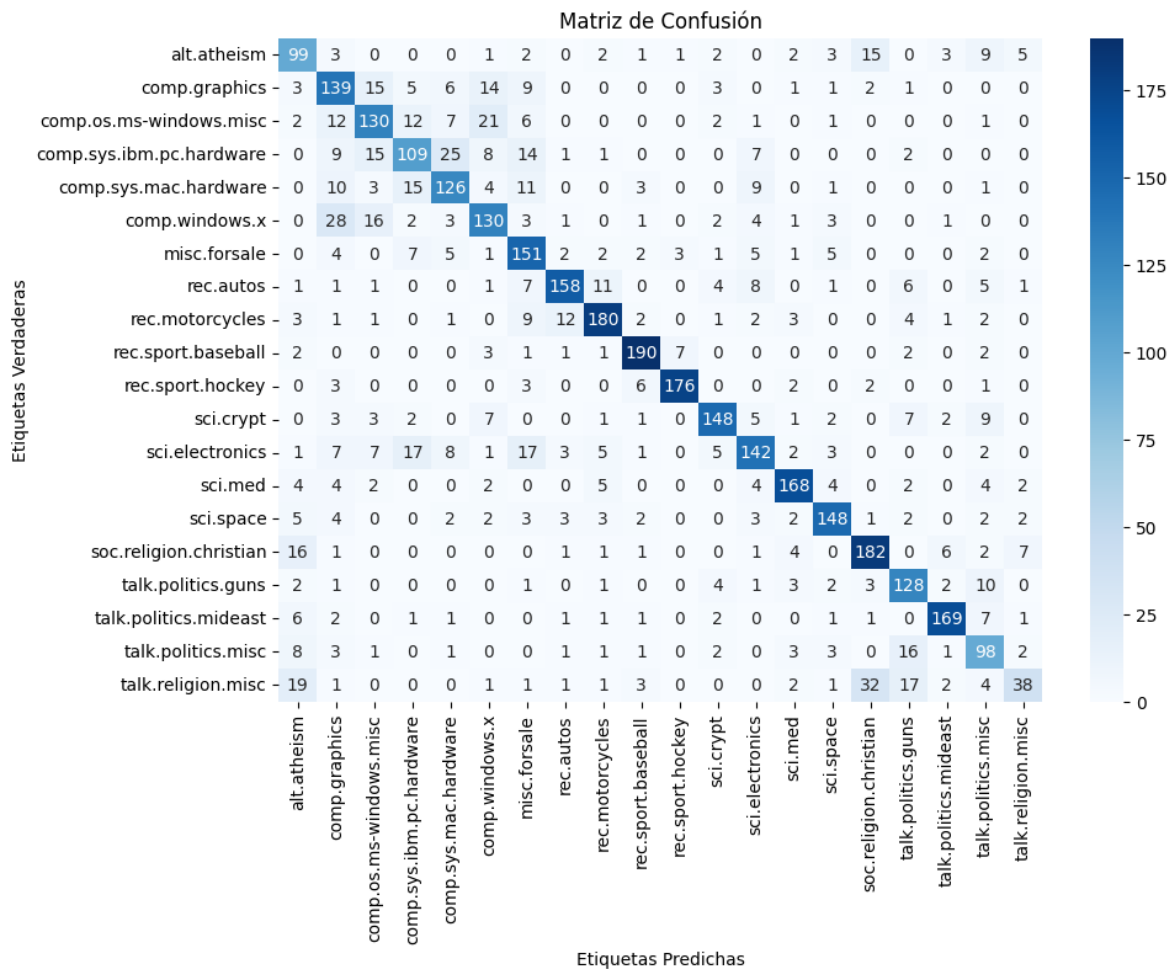
Matriz de Confusión

XBOOT

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.58	0.67	0.62	148
comp.graphics	0.59	0.70	0.64	199
comp.os.ms-windows.misc	0.67	0.67	0.67	195
comp.sys.ibm.pc.hardware	0.64	0.57	0.60	191
comp.sys.mac.hardware	0.68	0.69	0.68	183
comp.windows.x	0.66	0.67	0.66	195
misc.forsale	0.63	0.79	0.70	191
rec.autos	0.85	0.77	0.81	205
rec.motorcycles	0.83	0.81	0.82	222
rec.sport.baseball	0.88	0.91	0.90	209
rec.sport.hockey	0.94	0.91	0.93	193
sci.crypt	0.84	0.77	0.81	191
sci.electronics	0.74	0.64	0.69	221
sci.med	0.86	0.84	0.85	201
sci.space	0.83	0.80	0.82	184
soc.religion.christian	0.76	0.82	0.79	222
talk.politics.guns	0.68	0.81	0.74	158

```
          talk.politics.mideast       0.90        0.87        0.89         194
          talk.politics.misc          0.61        0.70        0.65         141
          talk.religion.misc          0.66        0.31        0.42         123

                    accuracy                                  0.75        3766
                   macro avg          0.74        0.74        0.73        3766
                weighted avg          0.75        0.75        0.74        3766
```
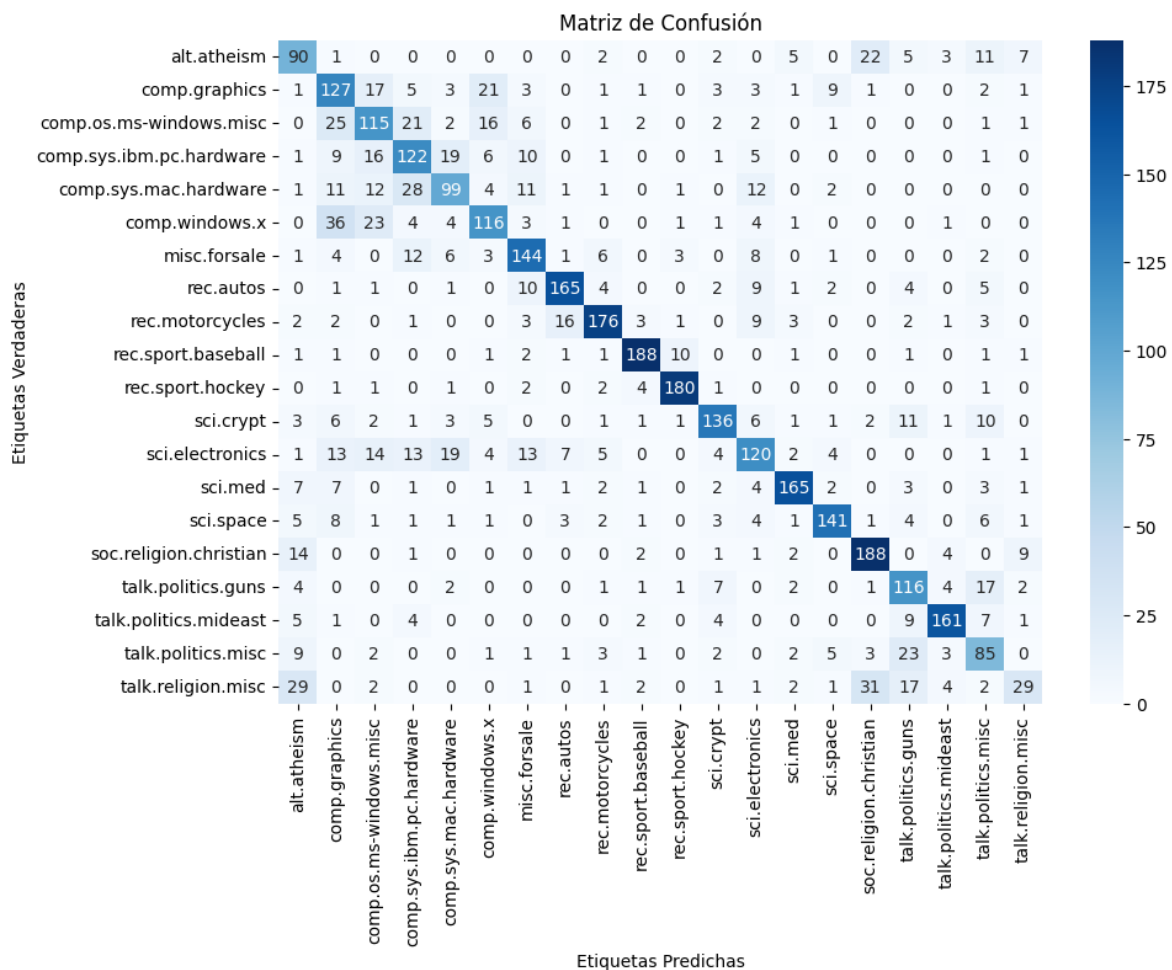
Micro-F1 Score: 0.7459

Matriz de Confusión

Gllove – Twiter 200

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.52	0.61	0.56	148
comp.graphics	0.50	0.64	0.56	199
comp.os.ms-windows.misc	0.56	0.59	0.57	195
comp.sys.ibm.pc.hardware	0.57	0.64	0.60	191
comp.sys.mac.hardware	0.62	0.54	0.58	183

comp.windows.x	0.65	0.59	0.62	195
misc.forsale	0.69	0.75	0.72	191
rec.autos	0.84	0.80	0.82	205
rec.motorcycles	0.84	0.79	0.81	222
rec.sport.baseball	0.90	0.90	0.90	209
rec.sport.hockey	0.91	0.93	0.92	193
sci.crypt	0.79	0.71	0.75	191
sci.electronics	0.64	0.54	0.59	221
sci.med	0.87	0.82	0.85	201
sci.space	0.83	0.77	0.80	184
soc.religion.christian	0.76	0.85	0.80	222
talk.politics.guns	0.59	0.73	0.66	158
talk.politics.mideast	0.88	0.83	0.86	194
talk.politics.misc	0.54	0.60	0.57	141
talk.religion.misc	0.54	0.24	0.33	123
accuracy			0.71	3766
macro avg	0.70	0.69	0.69	3766
weighted avg	0.71	0.71	0.71	3766

Micro-F1 Score: 0.7071

Matriz de Confusión

RF

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.50	0.55	0.52	148
comp.graphics	0.51	0.56	0.54	199
comp.os.ms-windows.misc	0.61	0.56	0.59	195
comp.sys.ibm.pc.hardware	0.53	0.54	0.54	191
comp.sys.mac.hardware	0.61	0.49	0.55	183
comp.windows.x	0.58	0.64	0.61	195
misc.forsale	0.61	0.78	0.69	191
rec.autos	0.76	0.72	0.74	205
rec.motorcycles	0.65	0.76	0.70	222
rec.sport.baseball	0.76	0.87	0.81	209
rec.sport.hockey	0.87	0.88	0.87	193
sci.crypt	0.70	0.68	0.69	191
sci.electronics	0.73	0.48	0.58	221
sci.med	0.81	0.79	0.80	201
sci.space	0.72	0.76	0.74	184
soc.religion.christian	0.72	0.84	0.77	222
talk.politics.guns	0.60	0.77	0.68	158
talk.politics.mideast	0.86	0.82	0.84	194
talk.politics.misc	0.60	0.56	0.58	141
talk.religion.misc	0.80	0.20	0.31	123
accuracy			0.67	3766
macro avg	0.68	0.66	0.66	3766
weighted avg	0.68	0.67	0.67	3766

Micro-F1 Score: 0.6742
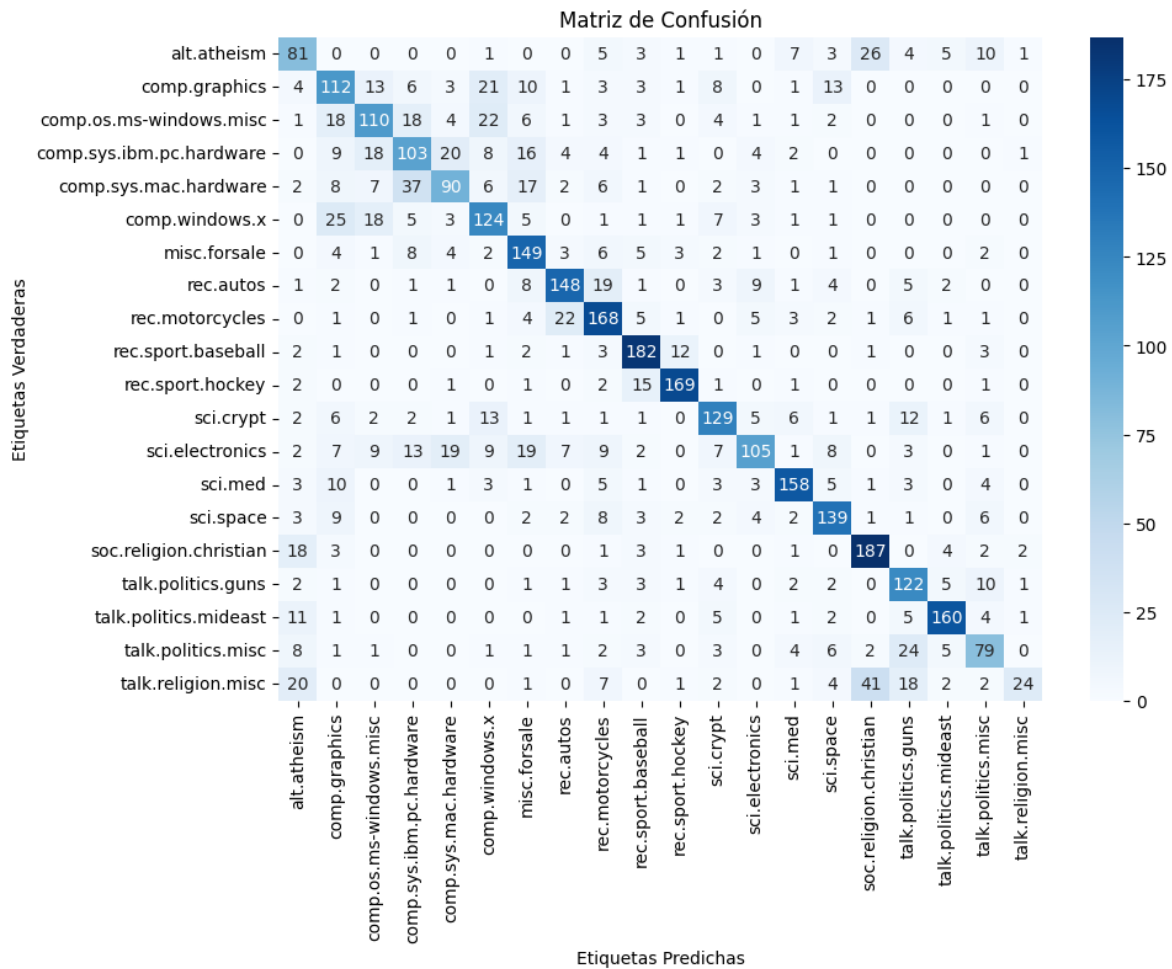
Matriz de Confusión

XBOOT

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.58	0.60	0.59	148
comp.graphics	0.54	0.63	0.58	199
comp.os.ms-windows.misc	0.63	0.56	0.59	195
comp.sys.ibm.pc.hardware	0.59	0.59	0.59	191
comp.sys.mac.hardware	0.60	0.57	0.59	183
comp.windows.x	0.61	0.63	0.62	195
misc.forsale	0.66	0.77	0.71	191
rec.autos	0.81	0.75	0.77	205
rec.motorcycles	0.74	0.73	0.74	222
rec.sport.baseball	0.85	0.84	0.84	209
rec.sport.hockey	0.87	0.90	0.88	193
sci.crypt	0.76	0.73	0.74	191
sci.electronics	0.64	0.57	0.60	221
sci.med	0.84	0.80	0.82	201
sci.space	0.73	0.74	0.73	184
soc.religion.christian	0.73	0.83	0.78	222
talk.politics.guns	0.63	0.73	0.68	158

talk.politics.mideast	0.90	0.84	0.87	194
talk.politics.misc	0.59	0.67	0.63	141
talk.religion.misc	0.51	0.28	0.36	123
accuracy			0.70	3766
macro avg	0.69	0.69	0.69	3766
weighted avg	0.70	0.70	0.70	3766

Micro-F1 Score: 0.6981

Matriz de Confusión
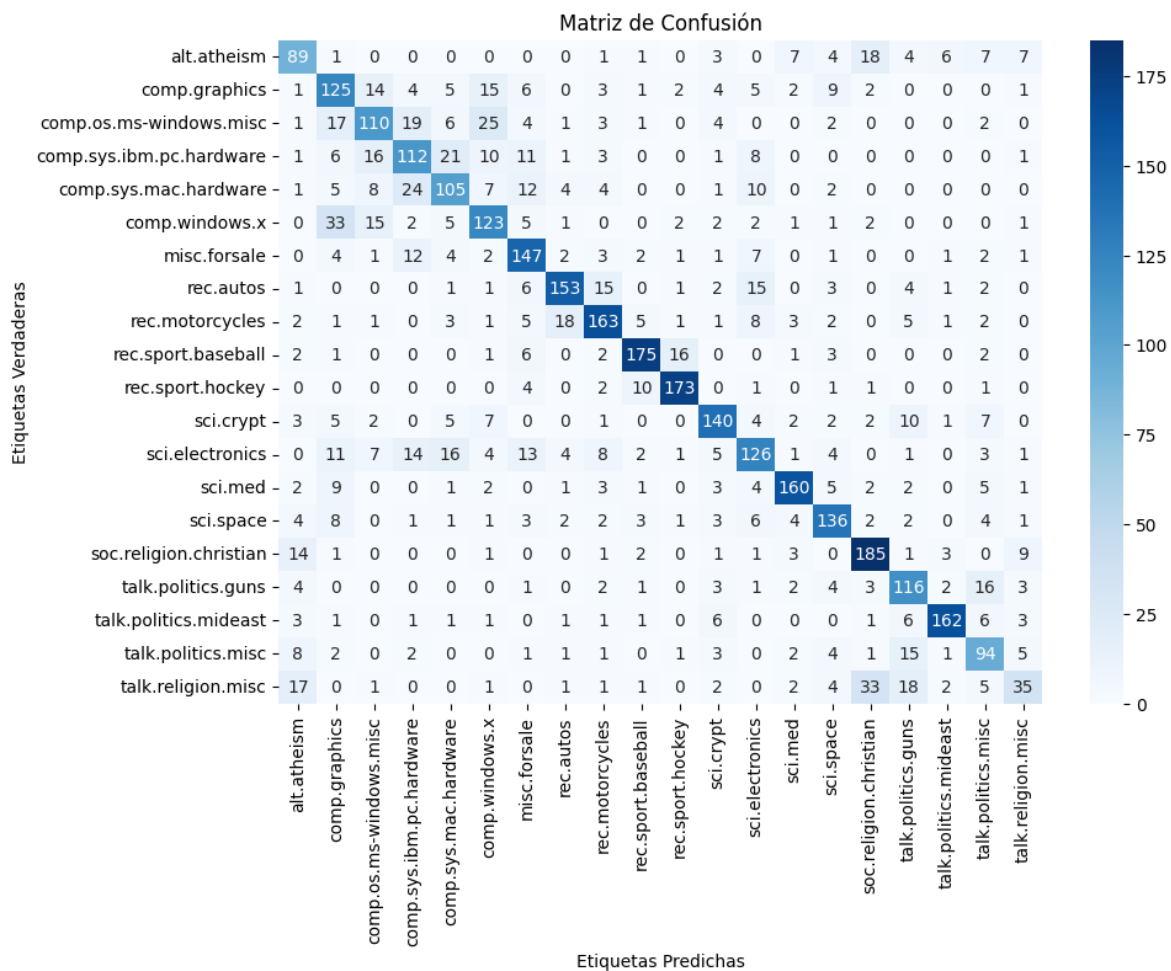
Fasttext

SVC

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.57	0.70	0.63	148
comp.graphics	0.62	0.71	0.66	199
comp.os.ms-windows.misc	0.62	0.61	0.61	195
comp.sys.ibm.pc.hardware	0.64	0.61	0.62	191
comp.sys.mac.hardware	0.72	0.67	0.69	183

comp.windows.x	0.74	0.76	0.75	195
misc.forsale	0.68	0.81	0.74	191
rec.autos	0.85	0.77	0.81	205
rec.motorcycles	0.85	0.85	0.85	222
rec.sport.baseball	0.88	0.88	0.88	209
rec.sport.hockey	0.90	0.88	0.89	193
sci.crypt	0.84	0.83	0.83	191
sci.electronics	0.75	0.71	0.73	221
sci.med	0.89	0.83	0.86	201
sci.space	0.85	0.80	0.83	184
soc.religion.christian	0.78	0.84	0.81	222
talk.politics.guns	0.68	0.81	0.74	158
talk.politics.mideast	0.92	0.88	0.90	194
talk.politics.misc	0.62	0.64	0.63	141
talk.religion.misc	0.60	0.32	0.41	123
accuracy			0.76	3766
macro avg	0.75	0.74	0.74	3766
weighted avg	0.76	0.76	0.76	3766

Micro-F1 Score: 0.7562

Matriz de Confusión

RF
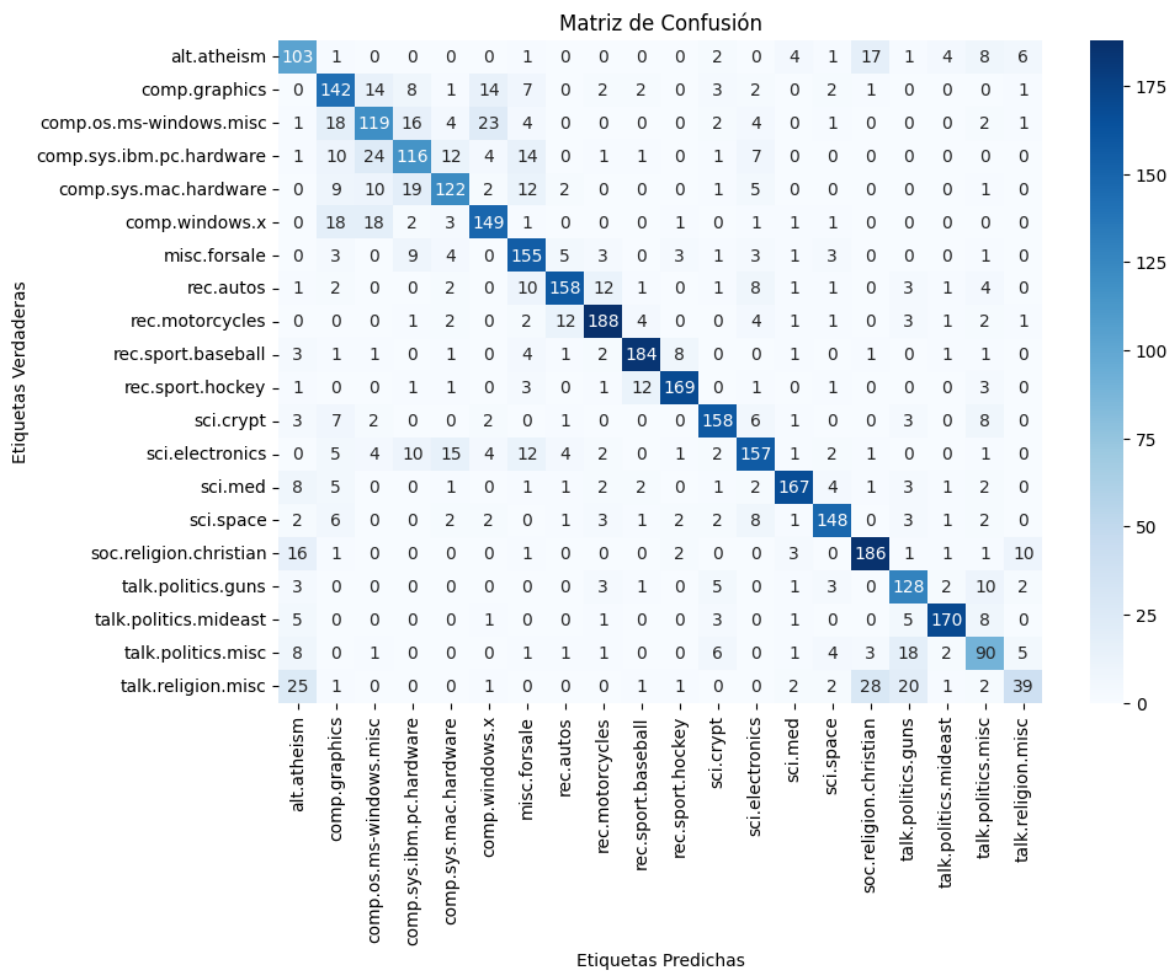
Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.58	0.56	0.57	148
comp.graphics	0.61	0.64	0.62	199
comp.os.ms-windows.misc	0.65	0.58	0.61	195
comp.sys.ibm.pc.hardware	0.56	0.57	0.56	191
comp.sys.mac.hardware	0.65	0.56	0.60	183
comp.windows.x	0.66	0.74	0.70	195
misc.forsale	0.60	0.68	0.64	191
rec.autos	0.82	0.71	0.76	205
rec.motorcycles	0.73	0.81	0.77	222
rec.sport.baseball	0.77	0.83	0.80	209
rec.sport.hockey	0.81	0.89	0.85	193
sci.crypt	0.75	0.75	0.75	191
sci.electronics	0.72	0.58	0.64	221
sci.med	0.83	0.83	0.83	201
sci.space	0.77	0.80	0.78	184
soc.religion.christian	0.71	0.86	0.78	222
talk.politics.guns	0.62	0.81	0.71	158
talk.politics.mideast	0.87	0.84	0.85	194
talk.politics.misc	0.62	0.62	0.62	141
talk.religion.misc	0.81	0.20	0.32	123
accuracy			0.71	3766
macro avg	0.71	0.69	0.69	3766
weighted avg	0.71	0.71	0.70	3766

Micro-F1 Score: 0.7055
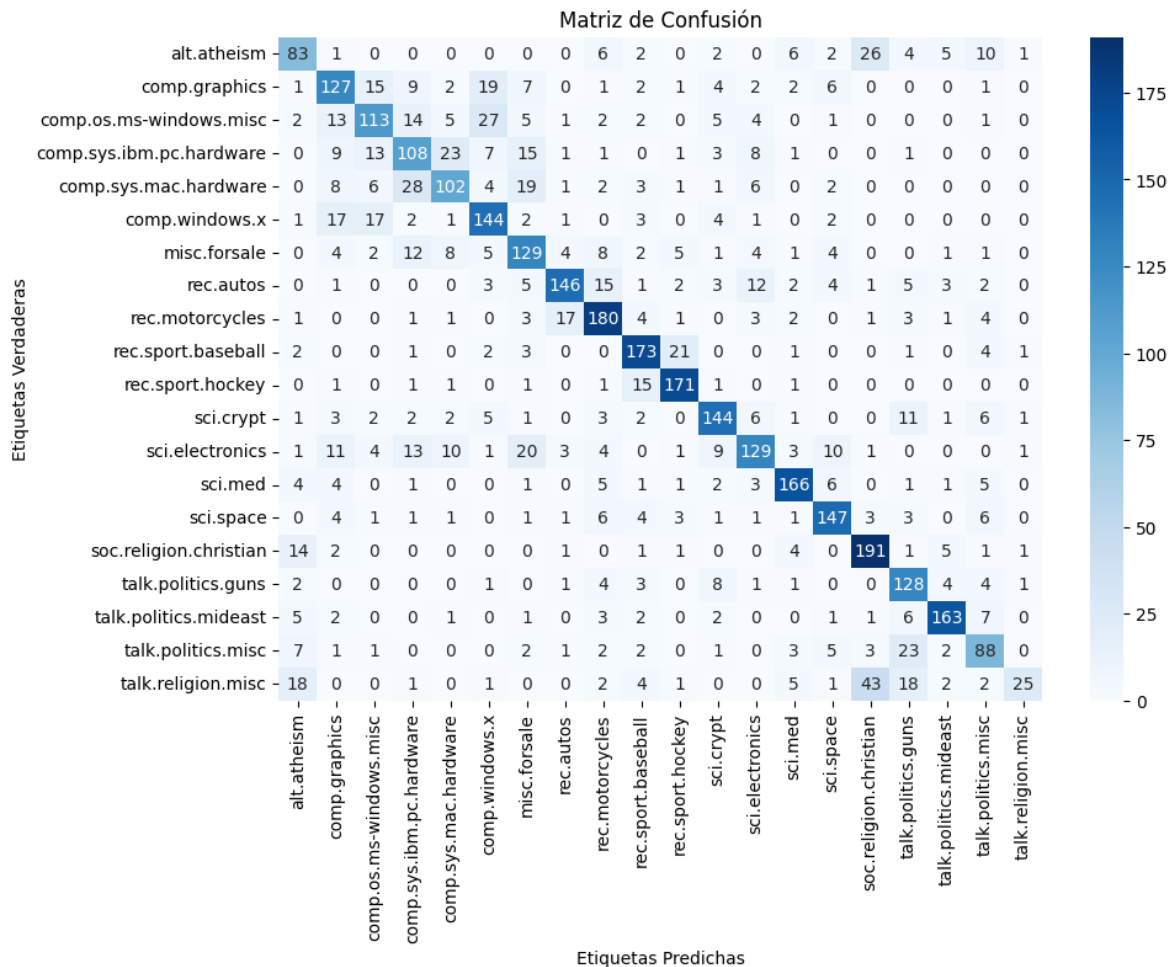
Matriz de Confusión

XBoost

Métricas en el conjunto de prueba:

	precision	recall	f1-score	support
alt.atheism	0.60	0.64	0.62	148
comp.graphics	0.65	0.71	0.68	199
comp.os.ms-windows.misc	0.66	0.62	0.64	195
comp.sys.ibm.pc.hardware	0.61	0.60	0.60	191
comp.sys.mac.hardware	0.64	0.58	0.61	183
comp.windows.x	0.71	0.72	0.72	195
misc.forsale	0.67	0.81	0.73	191
rec.autos	0.85	0.76	0.80	205
rec.motorcycles	0.80	0.79	0.79	222
rec.sport.baseball	0.84	0.84	0.84	209
rec.sport.hockey	0.86	0.88	0.87	193
sci.crypt	0.84	0.81	0.82	191
sci.electronics	0.72	0.68	0.70	221
sci.med	0.84	0.81	0.83	201
sci.space	0.79	0.77	0.78	184
soc.religion.christian	0.74	0.82	0.78	222
talk.politics.guns	0.64	0.79	0.71	158

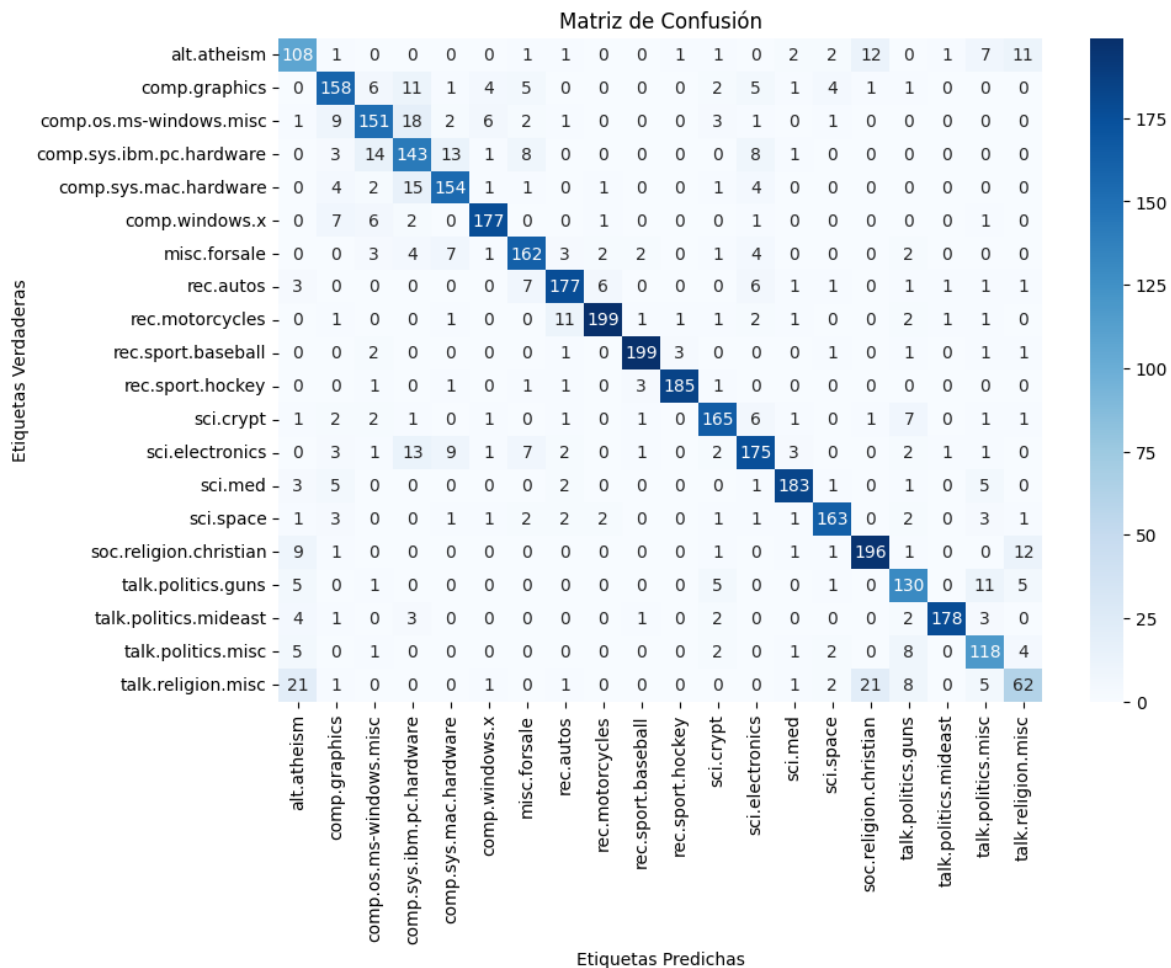|	precision	recall	f1-score	support
talk.politics.mideast	0.90	0.88	0.89	194
talk.politics.misc	0.61	0.66	0.63	141
talk.religion.misc	0.58	0.33	0.42	123
accuracy			0.74	3766
macro avg	0.73	0.72	0.72	3766
weighted avg	0.74	0.74	0.73	3766

Micro-F1 Score: 0.7353

Matriz de Confusión
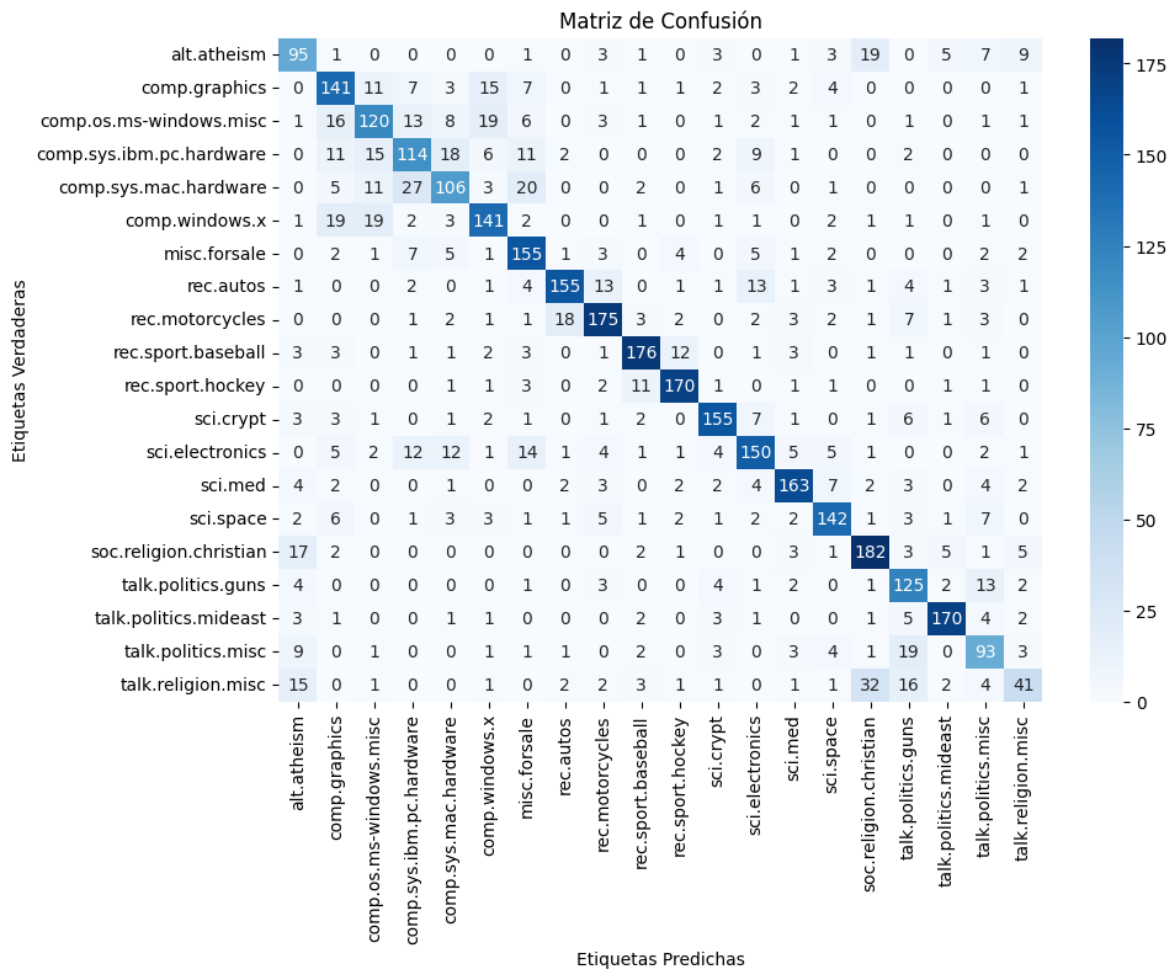
BERT

	precision	recall	f1-score	support
alt.atheism	0.67	0.73	0.70	148
comp.graphics	0.79	0.79	0.79	199
comp.os.ms-windows.misc	0.79	0.77	0.78	195
comp.sys.ibm.pc.hardware	0.68	0.75	0.71	191
comp.sys.mac.hardware	0.81	0.84	0.83	183
comp.windows.x	0.91	0.91	0.91	195
misc.forsale	0.83	0.85	0.84	191
rec.autos	0.87	0.86	0.87	205

rec.motorcycles	0.94	0.90	0.92	222
rec.sport.baseball	0.96	0.95	0.95	209
rec.sport.hockey	0.97	0.96	0.97	193
sci.crypt	0.88	0.86	0.87	191
sci.electronics	0.82	0.79	0.80	221
sci.med	0.93	0.91	0.92	201
sci.space	0.91	0.89	0.90	184
soc.religion.christian	0.85	0.88	0.87	222
talk.politics.guns	0.77	0.82	0.80	158
talk.politics.mideast	0.98	0.92	0.95	194
talk.politics.misc	0.75	0.84	0.79	141
talk.religion.misc	0.63	0.50	0.56	123
accuracy			0.85	3766
macro avg	0.84	0.84	0.84	3766
weighted avg	0.85	0.85	0.85	3766

Micro-F1 Score: 0.8452

Matriz de Confusión

Distilbert

	precision	recall	f1-score	support
alt.atheism	0.72	0.73	0.73	148
comp.graphics	0.77	0.82	0.79	199
comp.os.ms-windows.misc	0.81	0.76	0.78	195
comp.sys.ibm.pc.hardware	0.75	0.75	0.75	191
comp.sys.mac.hardware	0.83	0.90	0.86	183
comp.windows.x	0.88	0.90	0.89	195
misc.forsale	0.75	0.84	0.79	191
rec.autos	0.88	0.85	0.87	205
rec.motorcycles	0.93	0.89	0.91	222
rec.sport.baseball	0.97	0.94	0.95	209
rec.sport.hockey	0.95	0.97	0.96	193
sci.crypt	0.91	0.85	0.88	191
sci.electronics	0.79	0.76	0.78	221
sci.med	0.93	0.92	0.92	201
sci.space	0.94	0.87	0.90	184
soc.religion.christian	0.83	0.90	0.87	222
talk.politics.guns	0.78	0.80	0.79	158
talk.politics.mideast	0.97	0.91	0.94	194
talk.politics.misc	0.72	0.84	0.78	141
talk.religion.misc	0.56	0.42	0.48	123
accuracy			0.84	3766
macro avg	0.83	0.83	0.83	3766
weighted avg	0.84	0.84	0.84	3766

Micro-F1 Score: 0.8420

Matriz de Confusión