Evaluation results of SVM model

After testing with different features, the following combination of features gave the best F1-score: the token text and binary features start of sentence, token length < 4, is numeric, is punctuation, starts with an uppercase letter, is an abbreviation or initial, and whether a token is present in the handcrafted gazetteer list for Gronings.

F1-score **without** gazetter:

	precision	recall	f1-score	support
B-LOC	0.65	0.64	0.64	122
B-MISC	0.63	0.62	0.63	77
B-ORG	0.83	0.36	0.50	14
B-PER	0.77	0.96	0.85	507
I-LOC	0.71	0.43	0.53	28
I-MISC	0.83	0.29	0.43	17
I-ORG	0.33	0.08	0.13	12
I-PER	0.72	0.66	0.69	92
O	1.00	0.99	1.00	29638
accuracy			0.99	30507
macro avg	0.72	0.56	0.60	30507
weighted avg	0.99	0.99	0.99	30507

F1-score **without** gazetter and **with** parameter tuning:

	precision	recall	f1-score	support
B-LOC	0.67	0.61	0.64	122
B-MISC	0.70	0.62	0.66	77
B-ORG	1.00	0.36	0.53	14
B-PER	0.80	0.95	0.87	507
I-LOC	0.74	0.50	0.60	28
I-MISC	0.83	0.29	0.43	17
I-ORG	0.50	0.08	0.14	12
I-PER	0.72	0.65	0.69	92
O	1.00	1.00	1.00	29638
accuracy			0.99	30507
macro avg	0.77	0.56	0.62	30507
weighted avg	0.99	0.99	0.99	30507

F1-score **with** gazetter:

```
              precision    recall  f1-score   support

       B-LOC       0.83      0.85      0.84       122
      B-MISC       0.82      0.95      0.88        77
       B-ORG       0.82      0.64      0.72        14
       B-PER       0.90      0.98      0.94       507
       I-LOC       0.77      0.71      0.74        28
      I-MISC       0.82      0.53      0.64        17
       I-ORG       0.83      0.42      0.56        12
       I-PER       0.81      0.78      0.80        92
           O       1.00      1.00      1.00     29638

    accuracy                           0.99     30507
   macro avg       0.84      0.76      0.79     30507
weighted avg       0.99      0.99      0.99     30507
```

F1-score with gazetter and **with** parameter tuning:

```
              precision    recall  f1-score   support

       B-LOC       0.86      0.86      0.86       122
      B-MISC       0.81      0.95      0.87        77
       B-ORG       0.82      0.64      0.72        14
       B-PER       0.93      0.98      0.95       507
       I-LOC       0.80      0.71      0.75        28
      I-MISC       0.78      0.41      0.54        17
       I-ORG       0.83      0.42      0.56        12
       I-PER       0.77      0.77      0.77        92
           O       1.00      1.00      1.00     29638

    accuracy                           0.99     30507
   macro avg       0.84      0.75      0.78     30507
weighted avg       0.99      0.99      0.99     30507
```