自然語言處理 HW1

組員 :

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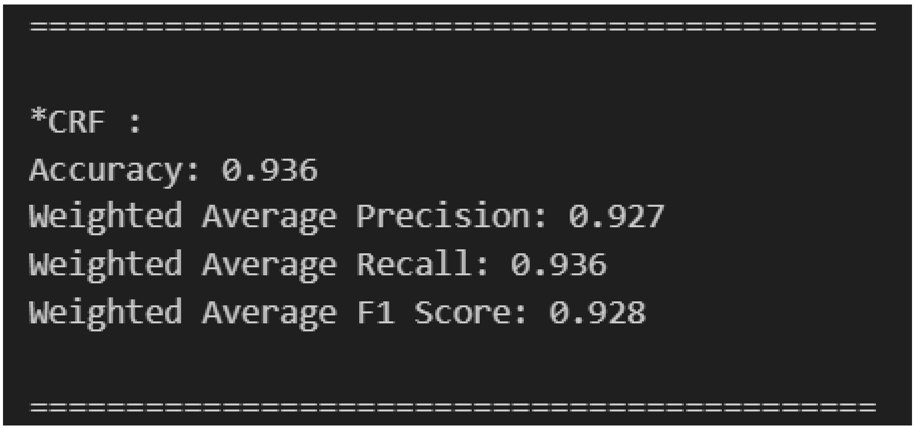
環境 : 使用 Jupyter Notebook	語言 : python

Classification results (Best *CRF)

- Accuracy = 0.936
- Precision = 0.927
- Recall = 0.936
- F-measure = 0.928



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*CRF :
Accuracy: 0.936
Weighted Average Precision: 0.927
Weighted Average Recall: 0.936
Weighted Average F1 Score: 0.928

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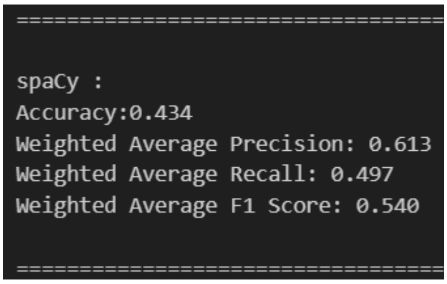
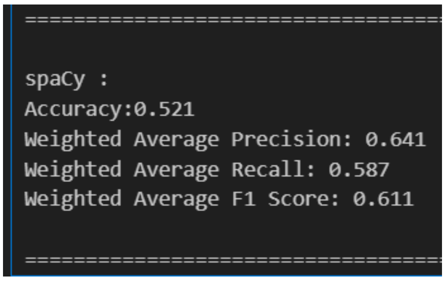
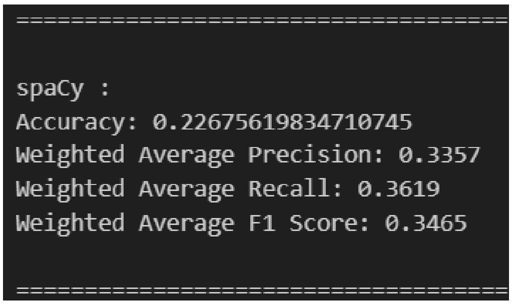
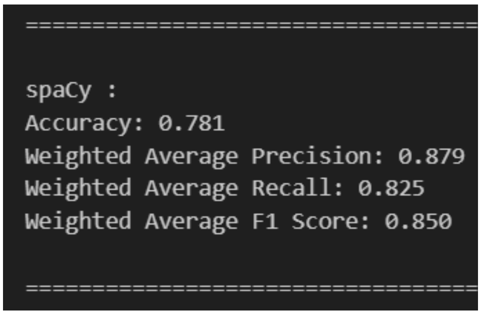
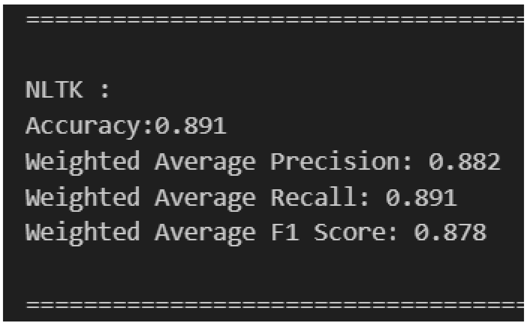
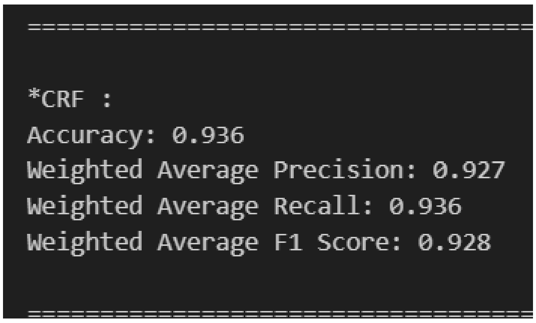
經使用不同模型後，分類表現 spaCy < NLTK < CRF

spaCy train - test - Precision = 0.613 - Recall = 0.497 - F-measure = 0.540 - Accuracy = 0.434  ================================== spaCy : Accuracy:0.434 Weighted Average Precision: 0.613 Weighted Average Recall: 0.497 Weighted Average F1 Score: 0.540 ==================================	spaCy train - (test+dev) - Precision = 0.641 - Recall = 0.587 - F-measure = 0.611 - Accuracy = 0.521  ================================== spaCy : Accuracy:0.521 Weighted Average Precision: 0.641 Weighted Average Recall: 0.587 Weighted Average F1 Score: 0.611 ==================================
spaCy k -fold (5-fold) - Precision = 0.3357 - Recall = 0.3619 - F-measure = 0.3465 - Accuracy = 0.2267	spaCy (train for command - dev for command - test): - Precision = 0.879 - Recall = 0.825 - F-measure = 0.850 - Accuracy = 0.781

 ==================================== spaCy : Accuracy: 0.22675619834710745 Weighted Average Precision: 0.3357 Weighted Average Recall: 0.3619 Weighted Average F1 Score: 0.3465 ====================================	 ==================================== spaCy : Accuracy: 0.781 Weighted Average Precision: 0.879 Weighted Average Recall: 0.825 Weighted Average F1 Score: 0.850 ====================================

NLTK (train - test): - Precision = 0.882 - Recall = 0.891 - F-measure = 0.878 - Accuracy = 0.891  ==================================== NLTK : Accuracy:0.891 Weighted Average Precision: 0.882 Weighted Average Recall: 0.891 Weighted Average F1 Score: 0.878 ====================================	*CRF : - Precision = 0.936 - Recall = 0.927 - F-measure = 0.936 - Accuracy = 0.928  ==================================== *CRF : Accuracy: 0.936 Weighted Average Precision: 0.927 Weighted Average Recall: 0.936 Weighted Average F1 Score: 0.928 ====================================

資料預處理

Test: Section F Development: second half of Section H Training: everything else

- 論文作者之 github: https://github.com/GateNLP/broad_twitter_corpus/blob/master/README.md

篩去不合 iob 格式之資料列
*CRF : 大小寫轉換