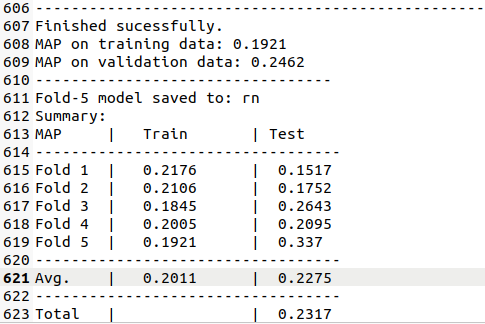
新的label與僅有4個top數值。

驗證的話，先不要cross project，下面的方法是切成5個fold，先在相同的project中驗證。

java -jar RankLib-2.18.jar -train Chart/SBFL\_chart.txt -ranker 1 -kcv 5 -kcvmd Chart\_result/Chart\_new\_label/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.8 >> Chart\_result/Chart\_new\_label/chart\_RN\_train.txt



從這邊的整體結果來看很差。

不管，先互相驗證試試看。

首先拿Chart-26來看看

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_new\_label/f5.rn -rank Chart/SBFL\_chart26\_test.txt -indri Chart\_result/Chart\_test26/Chart\_f5.rn\_in\_Chart26\_result.txt

Chart-12，是F3沒有參與訓練的

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_new\_label/f3.rn -rank Chart/SBFL\_chart12\_test.txt -indri Chart\_result/Chart\_test12/Chart\_f3.rn\_in\_Chart12\_result.txt

test所有，用來看Chart12是否結果合理?

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_new\_label/f3.rn -rank Chart/SBFL\_chart.txt -indri Chart\_result/Chart\_test/Chart\_f3.rn\_in\_Chart\_result.txt

從結果來看Chart-12的結果完全錯誤，沒任何用處，可能是因為這個label方法都是零點幾，造成模型沒辦法確認到底哪個結果是好的。

再跟老師討論?

真的想不到沒有APR的修復結果後當成label，作為訓練的其他方式。

或是將原本訓練資料**使用Top1、3、5、10以及是否生成patch這5個feature的結果。**的**是否生成Patch**這個改成計算的數值作為這個特徵。

.

直接試試看。

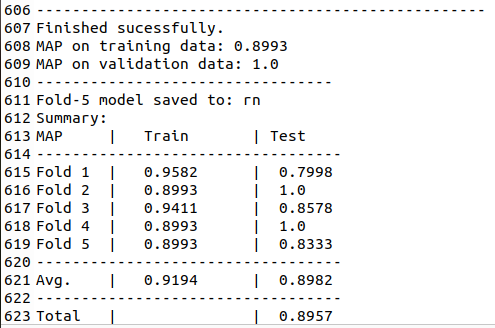
把剛剛的檔案名稱改成” old\_chart分頁排名結果.xlsx”與” old\_chart排名結果.xlsx”。

隨機排序

java -cp RankLib-2.18.jar ciir.umass.edu.features.FeatureManager -input Chart/SBFL\_chart\_calculate\_as\_feature.txt -output mydata/ -shuffle

檔案名稱叫做**”SBFL\_chart\_calculate\_as\_feature.txt”**這個

java -jar RankLib-2.18.jar -train Chart/SBFL\_chart\_calculate\_as\_feature.txt -ranker 1 -kcv 5 -kcvmd Chart\_result/Chart\_calculate/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.8 >> Chart\_result/Chart\_calculate/chart\_RN\_train.txt



用tts

java -jar RankLib-2.18.jar -train Chart/SBFL\_chart\_calculate\_as\_feature.txt -ranker 1 -kcv 5 -kcvmd Chart\_result/Chart\_calculate2/ -kcvmn rn -metric2t MAP -metric2T MAP -tts 0.8 >> Chart\_result/Chart\_calculate2/chart\_RN\_train.txt

test所有，用來看Chart12、14是否結果是好的

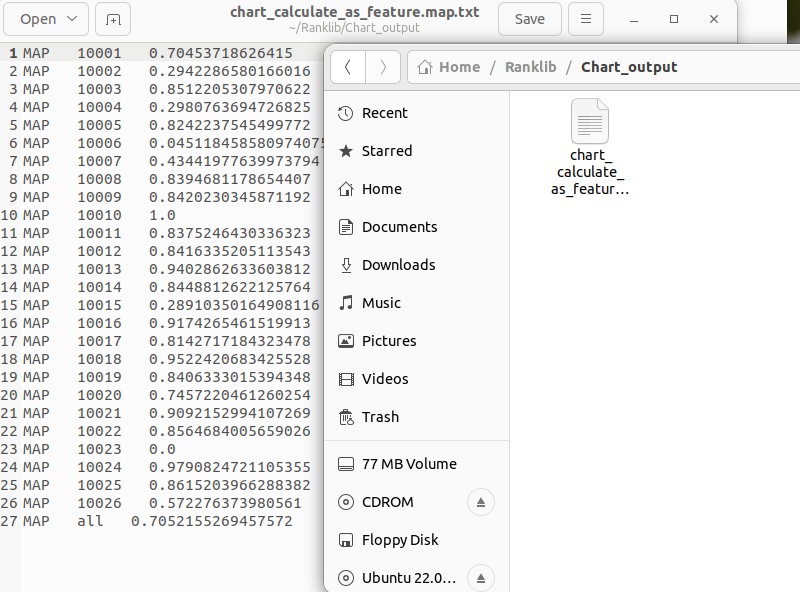
java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -rank Chart/SBFL\_chart\_calculate\_as\_feature.txt -indri Chart\_result/Chart\_test/Chart\_cal\_f3.rn\_in\_Chart\_result.txt

結果發現只是會單純的把好的APR排在前面而已，SBFL的好壞已經沒有任何影響了。

**驗證資料**

**(Chart應用於Chart)**

java -jar RankLib-2.18.jar -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_calculate\_as\_feature.map.txt



驗證結果

F1

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f1.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_F1\_calculate\_as\_feature\_in\_chart.map.txt

F2

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f2.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_F2\_calculate\_as\_feature\_in\_chart.map.txt

F3

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_F3\_calculate\_as\_feature\_in\_chart.map.txt

F4

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f4.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_F4\_calculate\_as\_feature\_in\_chart.map.txt

F5

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f5.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_F5\_calculate\_as\_feature\_in\_chart.map.txt

比較

java -cp RankLib-2.18.jar ciir.umass.edu.eval.Analyzer -all Chart\_output/ -base chart\_calculate\_as\_feature.map.txt > analysis.txt

**驗證資料**

**(Chart應用於Closure)**

java -jar RankLib-2.18.jar -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/closure\_calculate\_as\_feature.map.txt

驗證結果

F1

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f1.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/chart\_F1\_calculate\_as\_feature\_in\_closure.map.txt

F2

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f2.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/chart\_F2\_calculate\_as\_feature\_in\_closure.map.txt

F3

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/chart\_F3\_calculate\_as\_feature\_in\_closure.map.txt

F4

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f4.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/chart\_F4\_calculate\_as\_feature\_in\_closure.map.txt

F5

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f5.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_in\_closure/chart\_F5\_calculate\_as\_feature\_in\_closure.map.txt

比較

java -cp RankLib-2.18.jar ciir.umass.edu.eval.Analyzer -all Chart\_in\_closure/ -base closure\_calculate\_as\_feature.map.txt > analysis.txt

**將模型Chart的出的F3應用於Closure**

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -test Closure/SBFL\_closure\_calculate\_as\_feature.txt -metric2T MAP

**詳細列出每一個pid中的每一個編號的預測分數。**

**(Score用法)**

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -rank Closure/SBFL\_closure\_calculate\_as\_feature.txt -score Chart\_F3\_in\_closure\_Score.txt

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate/f3.rn -rank Closure/SBFL\_closure\_calculate\_as\_feature.txt -indri Closure\_result/Chart\_cal\_f3.rn\_in\_Closure\_result.txt

**改成使用MART**

java -jar RankLib-2.18.jar -train Chart/SBFL\_chart\_calculate\_as\_feature.txt -ranker 0 -kcv 5 -kcvmd Chart\_result/Chart\_calculate3/ -kcvmn mart -metric2t MAP -metric2T MAP -tvs 0.9 >> Chart\_result/Chart\_calculate3/chart\_MART\_train.txt

MART與RN比較

java -jar RankLib-2.18.jar -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_different\_model\_compare/chart\_calculate\_as\_feature.map.txt

RN F1

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate2/f1.rn -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_different\_model\_compare/chart\_rn\_F1\_calculate\_as\_feature\_in\_chart.map.txt

MART F1

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate3/f1.mart -test Chart/SBFL\_chart\_calculate\_as\_feature.txt -metric2T MAP -idv Chart\_output/chart\_different\_model\_compare/chart\_mart\_F1\_calculate\_as\_feature\_in\_chart.map.txt

比較

java -cp RankLib-2.18.jar ciir.umass.edu.eval.Analyzer -all Chart\_output/chart\_different\_model\_compare/ -base chart\_calculate\_as\_feature.map.txt > analysis.txt

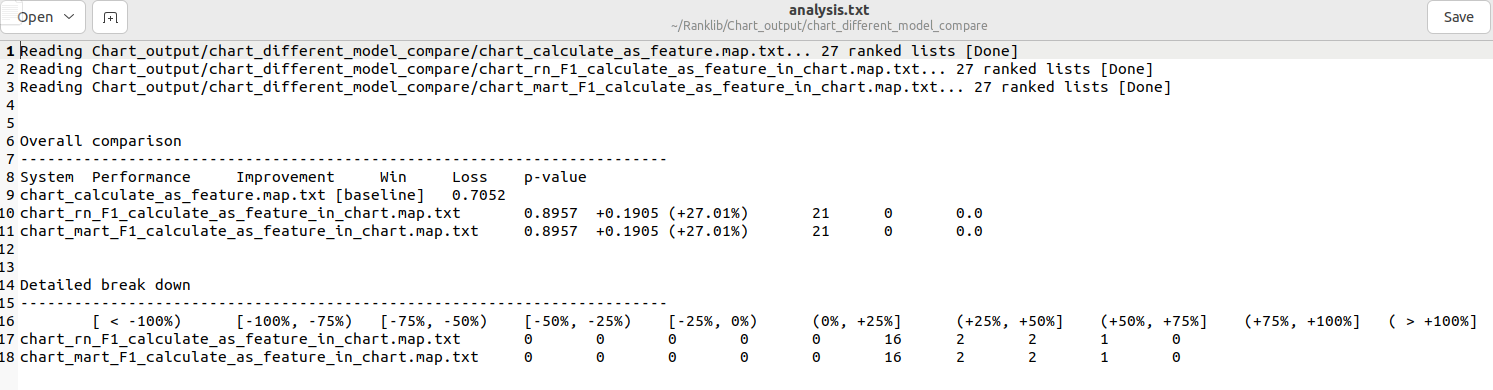
Score

java -jar RankLib-2.18.jar -load Chart\_result/Chart\_calculate2/f1.rn -rank Chart/SBFL\_chart\_calculate\_as\_feature.txt -score Chart\_F3\_in\_chart\_Score.txt -

數字也是小的很可憐。

就是沒有用處。

不同模型結果比較如下，不知道為甚麼結果也是相同的，好怪。



已經想不到任何在沒有APR結果下，來進一步預測哪種組合的好壞，因為我想了想都是需要APR的結果來預測。

但是這樣真的就感覺是單純的在統計結果了，不是用於組合的預測，想不到方法了。

可能將SBFL數值乘上與老師討論的數值，可能就會有差別嗎?

例如Chart-14

使用Dstar與TBar

這個數值就是使用Dstar在Chart-14使用得出的SBFL結果分數

而Tbar在Chart-14的統計分數是0.7767

兩個做相乘

有沒有可能就能分出SBFL的好壞