

File - model_test

```
1 C:\Users\Frede\Anaconda3\python.exe C:/Users/Frede/Dropbox/  
/Master/DM/Assignments/2/DM2/Expedia-Ranking-Competition/  
model_test.py  
2 Reading in training data...  
3 Imputing NaN...  
4  
5 WOW! 0.0% done! :D  
6  
7 CURRENT CONFIGURATION  
8 #####  
9 DATA PARAMETERS:  
10 Target = score_rank  
11 Max_rank = 10  
12 RANDOM FOREST PARAMETERS:  
13 Type estimator: regression  
14 N_trees = 350  
15 Max_features = sqrt  
16 Max_depth = 20  
17 Min_samples_leaf = 20  
18 #####  
19 Fold 1 running...  
20 Fitting model...  
21 Generating predictions...  
22 Converting into submission format...  
23 Calling scoring function...  
24 Matching true booking_bool/click_bool values to submission  
...  
25 Calculating NDCG_5 score...  
26 Finished!  
27 Fold 1 finished!  
28 Prediction scores for 1 folds are:  
29 [0.3438735143046056]  
30  
31 WOW! 1.39% done! :D  
32  
33 CURRENT CONFIGURATION  
34 #####  
35 DATA PARAMETERS:  
36 Target = score_rank  
37 Max_rank = 10  
38 RANDOM FOREST PARAMETERS:  
39 Type estimator: regression
```

File - model_test

```
40 N_trees = 350
41 Max_features = sqrt
42 Max_depth = 20
43 Min_samples_leaf = 1
44 ##########
45 Fold 1 running...
46 Fitting model...
47 Generating predictions...
48 Converting into submission format...
49 Calling scoring function...
50 Matching true booking_bool/click_bool values to submission
...
51 Calculating NDCG_5 score...
52 Finished!
53 Fold 1 finished!
54 Prediction scores for 1 folds are:
55 [0.3481802347162173]
56
57 WOW! 2.78% done! :D
58
59 CURRENT CONFIGURATION
60 #####
61 DATA PARAMETERS:
62 Target = score_rank
63 Max_rank = 10
64 RANDOM FOREST PARAMETERS:
65 Type estimator: regression
66 N_trees = 350
67 Max_features = sqrt
68 Max_depth = 40
69 Min_samples_leaf = 20
70 #####
71 Fold 1 running...
72 Fitting model...
73 Generating predictions...
74 Converting into submission format...
75 Calling scoring function...
76 Matching true booking_bool/click_bool values to submission
...
77 Calculating NDCG_5 score...
78 Finished!
79 Fold 1 finished!
```

```
80 Prediction scores for 1 folds are:  
81 [0.346097677026845]  
82  
83 WOW! 4.17% done! :D  
84  
85 CURRENT CONFIGURATION  
86 #####  
87 DATA PARAMETERS:  
88 Target = score_rank  
89 Max_rank = 10  
90 RANDOM FOREST PARAMETERS:  
91 Type estimator: regression  
92 N_trees = 350  
93 Max_features = sqrt  
94 Max_depth = 40  
95 Min_samples_leaf = 1  
96 #####  
97 Fold 1 running...  
98 Fitting model...  
99 Generating predictions...  
100 Converting into submission format...  
101 Calling scoring function...  
102 Matching true booking_bool/click_bool values to  
    submission...  
103 Calculating NDCG_5 score...  
104 Finished!  
105 Fold 1 finished!  
106 Prediction scores for 1 folds are:  
107 [0.3447459399782354]  
108  
109 WOW! 5.56% done! :D  
110  
111 CURRENT CONFIGURATION  
112 #####  
113 DATA PARAMETERS:  
114 Target = score_rank  
115 Max_rank = 10  
116 RANDOM FOREST PARAMETERS:  
117 Type estimator: regression  
118 N_trees = 350  
119 Max_features = sqrt  
120 Max_depth = 60
```

File - model_test

```
121 Min_samples_leaf = 20
122 ##########
123 Fold 1 running...
124 Fitting model...
125 Generating predictions...
126 Converting into submission format...
127 Calling scoring function...
128 Matching true booking_bool/click_bool values to
    submission...
129 Calculating NDCG_5 score...
130 Finished!
131 Fold 1 finished!
132 Prediction scores for 1 folds are:
133 [0.34475305858450006]
134
135 WOW! 6.94% done! :D
136
137 CURRENT CONFIGURATION
138 #####
139 DATA PARAMETERS:
140 Target = score_rank
141 Max_rank = 10
142 RANDOM FOREST PARAMETERS:
143 Type estimator: regression
144 N_trees = 350
145 Max_features = sqrt
146 Max_depth = 60
147 Min_samples_leaf = 1
148 #####
149 Fold 1 running...
150 Fitting model...
151 Generating predictions...
152 Converting into submission format...
153 Calling scoring function...
154 Matching true booking_bool/click_bool values to
    submission...
155 Calculating NDCG_5 score...
156 Finished!
157 Fold 1 finished!
158 Prediction scores for 1 folds are:
159 [0.34631998752124993]
160
```

```
161 WOW! 8.33% done! :D
162
163 CURRENT CONFIGURATION
164 ##########
165 DATA PARAMETERS:
166 Target = score_rank
167 Max_rank = 10
168 RANDOM FOREST PARAMETERS:
169 Type estimator: regression
170 N_trees = 350
171 Max_features = sqrt
172 Max_depth = None
173 Min_samples_leaf = 20
174 #####
175 Fold 1 running...
176 Fitting model...
177 Generating predictions...
178 Converting into submission format...
179 Calling scoring function...
180 Matching true booking_bool/click_bool values to
    submission...
181 Calculating NDCG_5 score...
182 Finished!
183 Fold 1 finished!
184 Prediction scores for 1 folds are:
185 [0.34360774154385]
186
187 WOW! 9.72% done! :D
188
189 CURRENT CONFIGURATION
190 #####
191 DATA PARAMETERS:
192 Target = score_rank
193 Max_rank = 10
194 RANDOM FOREST PARAMETERS:
195 Type estimator: regression
196 N_trees = 350
197 Max_features = sqrt
198 Max_depth = None
199 Min_samples_leaf = 1
200 #####
```

```
201 Fold 1 running...
202 Fitting model...
203 Generating predictions...
204 Converting into submission format...
205 Calling scoring function...
206 Matching true booking_bool/click_bool values to
    submission...
207 Calculating NDCG_5 score...
208 Finished!
209 Fold 1 finished!
210 Prediction scores for 1 folds are:
211 [0.34732559971420723]
212
213 WOW! 11.11% done! :D
214
215 CURRENT CONFIGURATION
216 ######
217 DATA PARAMETERS:
218 Target = score_rank
219 Max_rank = 10
220 RANDOM FOREST PARAMETERS:
221 Type estimator: regression
222 N_trees = 500
223 Max_features = sqrt
224 Max_depth = 20
225 Min_samples_leaf = 20
226 #####
227 Fold 1 running...
228 Fitting model...
229 Generating predictions...
230 Converting into submission format...
231 Calling scoring function...
232 Matching true booking_bool/click_bool values to
    submission...
233 Calculating NDCG_5 score...
234 Finished!
235 Fold 1 finished!
236 Prediction scores for 1 folds are:
237 [0.34497668540139703]
238
239 WOW! 12.5% done! :D
240
241 CURRENT CONFIGURATION
```

```
242 ######
243 DATA PARAMETERS:
244 Target = score_rank
245 Max_rank = 10
246 RANDOM FOREST PARAMETERS:
247 Type estimator: regression
248 N_trees = 500
249 Max_features = sqrt
250 Max_depth = 20
251 Min_samples_leaf = 1
252 #####
253 Fold 1 running...
254 Fitting model...
255 Generating predictions...
256 Converting into submission format...
257 Calling scoring function...
258 Matching true booking_bool/click_bool values to
    submission...
259 Calculating NDCG_5 score...
260 Finished!
261 Fold 1 finished!
262 Prediction scores for 1 folds are:
263 [0.34417436418612884]
264
265 WOW! 13.89% done! :D
266
267 CURRENT CONFIGURATION
268 #####
269 DATA PARAMETERS:
270 Target = score_rank
271 Max_rank = 10
272 RANDOM FOREST PARAMETERS:
273 Type estimator: regression
274 N_trees = 500
275 Max_features = sqrt
276 Max_depth = 40
277 Min_samples_leaf = 20
278 #####
279 Fold 1 running...
280 Fitting model...
281 Generating predictions...
```

```
282 Converting into submission format...
283 Calling scoring function...
284 Matching true booking_bool/click_bool values to
    submission...
285 Calculating NDCG_5 score...
286 Finished!
287 Fold 1 finished!
288 Prediction scores for 1 folds are:
289 [0.34498633621344804]
290
291 WOW! 15.28% done! :D
292
293 CURRENT CONFIGURATION
294 #####
295 DATA PARAMETERS:
296 Target = score_rank
297 Max_rank = 10
298 RANDOM FOREST PARAMETERS:
299 Type estimator: regression
300 N_trees = 500
301 Max_features = sqrt
302 Max_depth = 40
303 Min_samples_leaf = 1
304 #####
305 Fold 1 running...
306 Fitting model...
307 Generating predictions...
308 Converting into submission format...
309 Calling scoring function...
310 Matching true booking_bool/click_bool values to
    submission...
311 Calculating NDCG_5 score...
312 Finished!
313 Fold 1 finished!
314 Prediction scores for 1 folds are:
315 [0.34719105749456486]
316
317 WOW! 16.67% done! :D
318
319 CURRENT CONFIGURATION
320 #####
321 DATA PARAMETERS:
```

```
322 Target = score_rank
323 Max_rank = 10
324 RANDOM FOREST PARAMETERS:
325 Type estimator: regression
326 N_trees = 500
327 Max_features = sqrt
328 Max_depth = 60
329 Min_samples_leaf = 20
330 ##########
331 Fold 1 running...
332 Fitting model...
333 Generating predictions...
334 Converting into submission format...
335 Calling scoring function...
336 Matching true booking_bool/click_bool values to
    submission...
337 Calculating NDCG_5 score...
338 Finished!
339 Fold 1 finished!
340 Prediction scores for 1 folds are:
341 [0.3451310995050823]
342
343 WOW! 18.06% done! :D
344
345 CURRENT CONFIGURATION
346 #####
347 DATA PARAMETERS:
348 Target = score_rank
349 Max_rank = 10
350 RANDOM FOREST PARAMETERS:
351 Type estimator: regression
352 N_trees = 500
353 Max_features = sqrt
354 Max_depth = 60
355 Min_samples_leaf = 1
356 #####
357 Fold 1 running...
358 Fitting model...
359 Generating predictions...
360 Converting into submission format...
361 Calling scoring function...
362 Matching true booking_bool/click_bool values to
```

```
362 submission...
363 Calculating NDCG_5 score...
364 Finished!
365 Fold 1 finished!
366 Prediction scores for 1 folds are:
367 [0.34943491950544087]
368
369 WOW! 19.44% done! :D
370
371 CURRENT CONFIGURATION
372 ######
373 DATA PARAMETERS:
374 Target = score_rank
375 Max_rank = 10
376 RANDOM FOREST PARAMETERS:
377 Type estimator: regression
378 N_trees = 500
379 Max_features = sqrt
380 Max depth = None
381 Min_samples_leaf = 20
382 #####
383 Fold 1 running...
384 Fitting model...
385 Generating predictions...
386 Converting into submission format...
387 Calling scoring function...
388 Matching true booking_bool/click_bool values to
    submission...
389 Calculating NDCG_5 score...
390 Finished!
391 Fold 1 finished!
392 Prediction scores for 1 folds are:
393 [0.3465471881978593]
394
395 WOW! 20.83% done! :D
396
397 CURRENT CONFIGURATION
398 #####
399 DATA PARAMETERS:
400 Target = score_rank
401 Max_rank = 10
402 RANDOM FOREST PARAMETERS:
```

File - model_test

```
403 Type estimator: regression
404 N_trees = 500
405 Max_features = sqrt
406 Max_depth = None
407 Min_samples_leaf = 1
408 ######
409 Fold 1 running...
410 Fitting model...
411 Generating predictions...
412 Converting into submission format...
413 Calling scoring function...
414 Matching true booking_bool/click_bool values to
    submission...
415 Calculating NDCG_5 score...
416 Finished!
417 Fold 1 finished!
418 Prediction scores for 1 folds are:
419 [0.3494610844422884]
420
421 WOW! 22.22% done! :D
422
423 CURRENT CONFIGURATION
424 #####
425 DATA PARAMETERS:
426 Target = score_rank
427 Max_rank = 10
428 RANDOM FOREST PARAMETERS:
429 Type estimator: regression
430 N_trees = 1000
431 Max_features = sqrt
432 Max_depth = 20
433 Min_samples_leaf = 20
434 #####
435 Fold 1 running...
436 Fitting model...
437 Generating predictions...
438 Converting into submission format...
439 Calling scoring function...
440 Matching true booking_bool/click_bool values to
    submission...
441 Calculating NDCG_5 score...
442 Finished!
```

```
443 Fold 1 finished!
444 Prediction scores for 1 folds are:
445 [0.3457486519457918]
446
447 WOW! 23.61% done! :D
448
449 CURRENT CONFIGURATION
450 ######
451 DATA PARAMETERS:
452 Target = score_rank
453 Max_rank = 10
454 RANDOM FOREST PARAMETERS:
455 Type estimator: regression
456 N_trees = 1000
457 Max_features = sqrt
458 Max_depth = 20
459 Min_samples_leaf = 1
460 #####
461 Fold 1 running...
462 Fitting model...
463 Generating predictions...
464 Converting into submission format...
465 Calling scoring function...
466 Matching true booking_bool/click_bool values to
    submission...
467 Calculating NDCG_5 score...
468 Finished!
469 Fold 1 finished!
470 Prediction scores for 1 folds are:
471 [0.3476296505898369]
472
473 WOW! 25.0% done! :D
474
475 CURRENT CONFIGURATION
476 #####
477 DATA PARAMETERS:
478 Target = score_rank
479 Max_rank = 10
480 RANDOM FOREST PARAMETERS:
481 Type estimator: regression
482 N_trees = 1000
483 Max_features = sqrt
```

```
484 Max depth = 40
485 Min_samples_leaf = 20
486 ##########
487 Fold 1 running...
488 Fitting model...
489 Generating predictions...
490 Converting into submission format...
491 Calling scoring function...
492 Matching true booking_bool/click_bool values to
    submission...
493 Calculating NDCG_5 score...
494 Finished!
495 Fold 1 finished!
496 Prediction scores for 1 folds are:
497 [0.3459061411565366]
498
499 WOW! 26.39% done! :D
500
501 CURRENT CONFIGURATION
502 ##########
503 DATA PARAMETERS:
504 Target = score_rank
505 Max_rank = 10
506 RANDOM FOREST PARAMETERS:
507 Type estimator: regression
508 N_trees = 1000
509 Max_features = sqrt
510 Max depth = 40
511 Min_samples_leaf = 1
512 ##########
513 Fold 1 running...
514 Fitting model...
515 Generating predictions...
516 Converting into submission format...
517 Calling scoring function...
518 Matching true booking_bool/click_bool values to
    submission...
519 Calculating NDCG_5 score...
520 Finished!
521 Fold 1 finished!
522 Prediction scores for 1 folds are:
523 [0.3497209215899988]
```

```
524
525 WOW! 27.78% done! :D
526
527 CURRENT CONFIGURATION
528 ##########
529 DATA PARAMETERS:
530 Target = score_rank
531 Max_rank = 10
532 RANDOM FOREST PARAMETERS:
533 Type estimator: regression
534 N_trees = 1000
535 Max_features = sqrt
536 Max_depth = 60
537 Min_samples_leaf = 20
538 #####
539 Fold 1 running...
540 Fitting model...
541 Generating predictions...
542 Converting into submission format...
543 Calling scoring function...
544 Matching true booking_bool/click_bool values to
   submission...
545 Calculating NDCG_5 score...
546 Finished!
547 Fold 1 finished!
548 Prediction scores for 1 folds are:
549 [0.34489831292023576]
550
551 WOW! 29.17% done! :D
552
553 CURRENT CONFIGURATION
554 #####
555 DATA PARAMETERS:
556 Target = score_rank
557 Max_rank = 10
558 RANDOM FOREST PARAMETERS:
559 Type estimator: regression
560 N_trees = 1000
561 Max_features = sqrt
562 Max_depth = 60
563 Min_samples_leaf = 1
564 #####
```

```
564 #####
565 Fold 1 running...
566 Fitting model...
567 Generating predictions...
568 Converting into submission format...
569 Calling scoring function...
570 Matching true booking_bool/click_bool values to
    submission...
571 Calculating NDCG_5 score...
572 Finished!
573 Fold 1 finished!
574 Prediction scores for 1 folds are:
575 [0.349769323621378]
576
577 WOW! 30.56% done! :D
578
579 CURRENT CONFIGURATION
580 #####
581 DATA PARAMETERS:
582 Target = score_rank
583 Max_rank = 10
584 RANDOM FOREST PARAMETERS:
585 Type estimator: regression
586 N_trees = 1000
587 Max_features = sqrt
588 Max_depth = None
589 Min_samples_leaf = 20
590 #####
591 Fold 1 running...
592 Fitting model...
593 Generating predictions...
594 Converting into submission format...
595 Calling scoring function...
596 Matching true booking_bool/click_bool values to
    submission...
597 Calculating NDCG_5 score...
598 Finished!
599 Fold 1 finished!
600 Prediction scores for 1 folds are:
601 [0.3449963034494961]
602
603 WOW! 31.94% done! :D
604
```

File - model_test

```
605 CURRENT CONFIGURATION
606 ##########
607 DATA PARAMETERS:
608 Target = score_rank
609 Max_rank = 10
610 RANDOM FOREST PARAMETERS:
611 Type estimator: regression
612 N_trees = 1000
613 Max_features = sqrt
614 Max_depth = None
615 Min_samples_leaf = 1
616 #####
617 Fold 1 running...
618 Fitting model...
619 Generating predictions...
620 Converting into submission format...
621 Calling scoring function...
622 Matching true booking_bool/click_bool values to
    submission...
623 Calculating NDCG_5 score...
624 Finished!
625 Fold 1 finished!
626 Prediction scores for 1 folds are:
627 [0.34889975304586573]
628
629 WOW! 33.33% done! :D
630
631 CURRENT CONFIGURATION
632 #####
633 DATA PARAMETERS:
634 Target = score_rank
635 Max_rank = 10
636 RANDOM FOREST PARAMETERS:
637 Type estimator: regression
638 N_trees = 2000
639 Max_features = sqrt
640 Max_depth = 20
641 Min_samples_leaf = 20
642 #####
643 Fold 1 running...
644 Fitting model...
```

```
645 Generating predictions...
646 Converting into submission format...
647 Calling scoring function...
648 Matching true booking_bool/click_bool values to
    submission...
649 Calculating NDCG_5 score...
650 Finished!
651 Fold 1 finished!
652 Prediction scores for 1 folds are:
653 [0.34606092371929265]
654
655 WOW! 34.72% done! :D
656
657 CURRENT CONFIGURATION
658 ######
659 DATA PARAMETERS:
660 Target = score_rank
661 Max_rank = 10
662 RANDOM FOREST PARAMETERS:
663 Type estimator: regression
664 N_trees = 2000
665 Max_features = sqrt
666 Max depth = 20
667 Min_samples_leaf = 1
668 #####
669 Fold 1 running...
670 Fitting model...
671 Generating predictions...
672 Converting into submission format...
673 Calling scoring function...
674 Matching true booking_bool/click_bool values to
    submission...
675 Calculating NDCG_5 score...
676 Finished!
677 Fold 1 finished!
678 Prediction scores for 1 folds are:
679 [0.346499214393532]
680
681 WOW! 36.11% done! :D
682
683 CURRENT CONFIGURATION
684 ######
```

```
685 DATA PARAMETERS:  
686 Target = score_rank  
687 Max_rank = 10  
688 RANDOM FOREST PARAMETERS:  
689 Type estimator: regression  
690 N_trees = 2000  
691 Max_features = sqrt  
692 Max_depth = 40  
693 Min_samples_leaf = 20  
694 #####  
695 Fold 1 running...  
696 Fitting model...  
697 Generating predictions...  
698 Converting into submission format...  
699 Calling scoring function...  
700 Matching true booking_bool/click_bool values to  
    submission...  
701 Calculating NDCG_5 score...  
702 Finished!  
703 Fold 1 finished!  
704 Prediction scores for 1 folds are:  
705 [0.34436111157739363]  
706  
707 WOW! 37.5% done! :D  
708  
709 CURRENT CONFIGURATION  
710 #####  
711 DATA PARAMETERS:  
712 Target = score_rank  
713 Max_rank = 10  
714 RANDOM FOREST PARAMETERS:  
715 Type estimator: regression  
716 N_trees = 2000  
717 Max_features = sqrt  
718 Max_depth = 40  
719 Min_samples_leaf = 1  
720 #####  
721 Fold 1 running...  
722 Fitting model...  
723 Generating predictions...  
724 Converting into submission format...  
725 Calling scoring function...
```

File - model_test

```
726 Matching true booking_bool/click_bool values to
    submission...
727 Calculating NDCG_5 score...
728 Finished!
729 Fold 1 finished!
730 Prediction scores for 1 folds are:
731 [0.35103595952357197]
732
733 WOW! 38.89% done! :D
734
735 CURRENT CONFIGURATION
736 #####
    #####
737 DATA PARAMETERS:
738 Target = score_rank
739 Max_rank = 10
740 RANDOM FOREST PARAMETERS:
741 Type estimator: regression
742 N_trees = 2000
743 Max_features = sqrt
744 Max depth = 60
745 Min_samples_leaf = 20
746 #####
    #####
747 Fold 1 running...
748 Fitting model...
749 Generating predictions...
750 Converting into submission format...
751 Calling scoring function...
752 Matching true booking_bool/click_bool values to
    submission...
753 Calculating NDCG_5 score...
754 Finished!
755 Fold 1 finished!
756 Prediction scores for 1 folds are:
757 [0.3454847062800021]
758
759 WOW! 40.28% done! :D
760
761 CURRENT CONFIGURATION
762 #####
    #####
763 DATA PARAMETERS:
764 Target = score_rank
765 Max_rank = 10
```

```
766 RANDOM FOREST PARAMETERS:  
767 Type estimator: regression  
768 N_trees = 2000  
769 Max_features = sqrt  
770 Max depth = 60  
771 Min_samples_leaf = 1  
772 #####  
773 Fold 1 running...  
774 Fitting model...  
775 Generating predictions...  
776 Converting into submission format...  
777 Calling scoring function...  
778 Matching true booking_bool/click_bool values to  
    submission...  
779 Calculating NDCG_5 score...  
780 Finished!  
781 Fold 1 finished!  
782 Prediction scores for 1 folds are:  
783 [0.3512365068154746]  
784  
785 WOW! 41.67% done! :D  
786  
787 CURRENT CONFIGURATION  
788 #####  
789 DATA PARAMETERS:  
790 Target = score_rank  
791 Max_rank = 10  
792 RANDOM FOREST PARAMETERS:  
793 Type estimator: regression  
794 N_trees = 2000  
795 Max_features = sqrt  
796 Max depth = None  
797 Min_samples_leaf = 20  
798 #####  
799 Fold 1 running...  
800 Fitting model...  
801 Generating predictions...  
802 Converting into submission format...  
803 Calling scoring function...  
804 Matching true booking_bool/click_bool values to  
    submission...  
805 Calculating NDCG_5 score...
```

```
806 Finished!
807 Fold 1 finished!
808 Prediction scores for 1 folds are:
809 [0.3434507109076554]
810
811 WOW! 43.06% done! :D
812
813 CURRENT CONFIGURATION
814 ######
815 DATA PARAMETERS:
816 Target = score_rank
817 Max_rank = 10
818 RANDOM FOREST PARAMETERS:
819 Type estimator: regression
820 N_trees = 2000
821 Max_features = sqrt
822 Max depth = None
823 Min_samples_leaf = 1
824 #####
825 Fold 1 running...
826 Fitting model...
827 Generating predictions...
828 Converting into submission format...
829 Calling scoring function...
830 Matching true booking_bool/click_bool values to
     submission...
831 Calculating NDCG_5 score...
832 Finished!
833 Fold 1 finished!
834 Prediction scores for 1 folds are:
835 [0.35159840442137746]
836
837 Process finished with exit code 0
838
```