

**NDCG@19**

1.2  
1.0  
0.8  
0.6  
0.4  
0.2

**0.34 0.31 0.21 0.31 0.31 0.32 0.30 0.26 0.31 0.31 0.32 0.33 0.31 0.31 0.32 0.31 0.32 0.32 0.32 0.31 0.32 0.28 0.32 0.32 0.33 0.33 0.26 0.31 0.33 0.32 0.33 0.17 0.15 0.18 0.22 0.22**

Initial DCS GT 1 2 3 4 GAPI 1 2 3 4 BTN 1 2 3 4 NMS 1 2 3 4 IMP-P 1 2 3 4 IMP-A 1 2 3 4 CoT 1 2 3 4

Alternate Fair Ranking Methods as defined in Section IV

