**Your Name:**

**Your Andrew ID:**

**Homework 3**

# Collaboration and Originality

1. Did you receive help of any kind from anyone (other than the instructor or TAs) in developing your software for this assignment (Yes or No)? If you answered Yes, provide the name(s) of anyone who provided help, and describe the type of help that you received.
2. Did you give help of any kind to anyone in developing their software for this assignment (Yes or No)? If you answered Yes, provide the name(s) of anyone that you helped, and describe the type of help that you provided.
3. Did you examine anyone else’s software for this assignment (Yes or No)? Do not describe software provided by the instructor.
4. Are you (or the course instructor) the author of every line of source code submitted for this assignment (Yes or No)? If you answered No:
   1. identify the software that you did not write,
   2. explain where it came from, and
   3. explain why you used it.
5. Are you the author of every word of your report (Yes or No)? If you answered No:
   1. identify the text that you did not write,
   2. explain where it came from, and
   3. explain why you used it.

# Descriptions of Custom Features

***Describe each of your custom features, including what information it uses and its computational complexity. Explain the intuitions behind your choices. This does not need to be a lengthy discussion, but you need to convince us that your features are reasonable hypotheses about what improves search accuracy, and not too computationally expensive to be practical.***

***Instructions are shown in a red italic bold font. Do not include instructions in your report. There is a 1 point deduction for leaving instructions in your report.***

# Experimental Results for Custom Features

***Your .zip / .tgz file must include files named HW3-Exp-2.1a.qry, HW3-Exp-2.1a.param, etc., in the QryEval directory. The experimental results shown above must be reproducible by these files and the parameter values shown in the table.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SVMrank** | | | | | | |
|  | **LTR Base**  **(Exp-2.1a)** | **LTR Base**  **+ f17**  **(Exp-2.1b)** | **LTR Base**  **+ f18**  **(Exp-2.1c)** | **LTR Base**  **+ f19**  **(Exp-2.1d)** | **LTR Base**  **+ f20**  **(Exp-2.1e)** | **LTR Base**  **+ f17-f20**  **(Exp-2.1f)** |
| **P@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **MAP** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coordinate Ascent** | | | | | | |
|  | **LTR Base**  **(Exp-2.2a)** | **LTR Base**  **+ f17**  **(Exp-2.2b)** | **LTR Base**  **+ f18**  **(Exp-2.2c)** | **LTR Base**  **+ f19**  **(Exp-2.2d)** | **LTR Base**  **+ f20**  **(Exp-2.2e)** | **LTR Base**  **+ f17-f20**  **(Exp-2.2f)** |
| **P@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **MAP** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ListNet** | | | | | | |
|  | **LTR Base**  **(Exp-2.3a)** | **LTR Base**  **+ f17**  **(Exp-2.3b)** | **LTR Base**  **+ f18**  **(Exp-2.3c)** | **LTR Base**  **+ f19**  **(Exp-2.3d)** | **LTR Base**  **+ f20**  **(Exp-2.3e)** | **LTR Base**  **+ f17-f20**  **(Exp-2.3f)** |
| **P@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **P@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@10** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@20** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **NDCG@30** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **MAP** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

# Parameters for Custom Features Experiments

***Briefly describe the parameter settings that were used to obtain these results.***