Your Name: Chih-Wei Chang

Your Andrew ID: cchang3

Homework 2

Collaboration and Originality

Your report must include answers to the following questions:

1. Did you receive help of any kind from anyone in developing your software for this assignment (Yes or No)? It is not necessary to describe discussions with the instructor or TAs.

   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. Are you the author of every line of source code submitted for this assignment (Yes or No)? It is not necessary to mention software provided by the instructor.

   If you answered No:
   a. identify the software that you did not write,
   b. explain where it came from, and
   c. explain why you used it.

4. Are you the author of every word of your report (Yes or No)?

   If you answered No:
   a. identify the text that you did not write,
   b. explain where it came from, and
   c. explain why you used it.

Your Name:

Your Andrew ID:

Homework 2

Instructions

Each experiment requires you to set parameters or weights. You must explain why you chose particular values, and how your choices relate to how the technique works. We look for good experimental design – parameters that explore interesting issues or hypotheses (even if the hypothesis turns out to be wrong).

You must analyze the experimental results. Don't just summarize the numbers contained in the table – we can read the table ourselves. Instead, explain what conclusions you can reach based on the experiment. You could discuss the stability of results across different parameter settings; effects on Precision or Recall; accuracy vs. computational effort; or other aspects of the experimental results that interest you. Usually a good analysis addresses several issues. Show that you understand what the results mean, based upon what we have discussed in class.

Instructions are shown in a red italic bold font. Do not include instructions in your report. We will deduct points for leaving instructions in your final report.

1 Experiment 1: Baselines

	Ranked Boolean	BM25 BOW	Indri BOW
P@10	0.0000	0.0000	0.0000
P@20	0.0000	0.0000	0.0000
P@30	0.0000	0.0000	0.0000
MAP	0.0000	0.0000	0.0000

No discussion is required.

2 Experiment 2: BM25 Parameter Adjustment

2.1 k_1

	k_1							
	1.2	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7
P@10	0.0000	0.0000	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	0.0000	0.0000
P@30	0.0000	0.0000	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	0.0000	0.0000

.

2.2 b

	b							
	0.75	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7
P@10	0.0000	0.0000	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	0.0000	0.0000
P@30	0.0000	0.0000	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	0.0000	0.0000

2.3 Parameters

Explain and justify your choice of parameters.

2.4 Discussion

Analyze the experimental results.

3 Experiment 3: Indri Parameter Adjustment

3.1 μ

	μ							
	2500	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7
P@10	0.0000	0.0000	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	0.0000	0.0000
P@30	0.0000	0.0000	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	0.0000	0.0000

3.2 λ

	λ							
	0.4	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7
P@10	0.0000	0.0000	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	0.0000	0.0000
P@30	0.0000	0.0000	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	0.0000	0.0000

3.3 Parameters

Explain and justify your choice of parameters.

3.4 Discussion

Analyze the experimental results.

4 Experiment 4: Different representations

4.1 Example Query

Provide your structured query for query "sherwood regional library".

4.2 Results

	Indri BOW (body)	0.00 url 0.00 keywords 0.00 title 0.00 body 0.00 inlink	0.00 url 0.00 keywords 0.00 title 0.00 body 0.00 inlink	0.00 url 0.00 keywords 0.00 title 0.00 body 0.00 inlink	0.00 url 0.00 keywords 0.00 title 0.00 body 0.00 inlink	0.00 url 0.00 keywords 0.00 title 0.00 body 0.00 inlink
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
MAP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.3 Weights

Explain and justify your choice of weights.

4.4 Discussion

Analyze the experimental results.

5 Experiment 5: Sequential dependency models

5.1 Example Query

Provide your structured query for query "sherwood regional library".

5.2 Results

	Indri BOW (body)	0.00 AND 0.00 NEAR 0.00 WINDOW	0.00 AND 0.00 NEAR 0.00 WINDOW	0.00 AND 0.00 NEAR 0.00 WINDOW	0.00 AND 0.00 NEAR 0.00 WINDOW	0.00 AND 0.00 NEAR 0.00 WINDOW
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
MAP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Weights

Explain and justify your choice of weights.

5.4 Discussion

Analyze the experimental results.