Per-Topic Scores: TREC 2009 Legal Track, Batch Task

This Appendix document records the scores of the experimental participant runs and reference runs for the 10 test topics of the Batch Task of the TREC 2009 Legal Track. (For more information on the task, please see the track overview paper, "Overview of the TREC 2009 Legal Track," in these proceedings.)

For each test topic, 4 tables are provided:

- Set-based Scores using All Relevant documents
- Set-based Scores using only Highly Relevant documents
- Rank-based Scores using All Relevant documents
- Rank-based Scores using only Highly Relevant documents

For the tables of set-based scores, the table headings are as follows:

- "Run" is the identifier of the experimental participant or reference run.
  - The 10 experimental participant runs (EmcRun1, otL09F, otL09frwF, otL09rvl, ucedlsi, uclsi, ucscra, watlogistic, watrrf, watstack) are listed for all test topics. More details on these runs are in another appendix document. Also, please see the papers submitted by the participants.
  - There are 4 reference runs for all ten test topics: fullset09 (the entire set of documents in the collection), oldnon09 (the set of documents judged non-relevant in previous years), oldrel09 (the set of documents judged relevant in previous years), and refL09B (the set of documents matching the final negotiated Boolean query).
  - For some topics (80, 89, 105, 138, 145), the past judgments distinguished between highly and other relevant documents, allowing 2 additional reference runs: oldHrel09 (the set of documents judged highly relevant in previous years) and oldOrel09 (the set of other documents judged relevant in previous years). (oldrel09 is the union of oldHRel09 and oldOrel09.)
  - For topics 102 and higher, the following extra Boolean reference runs are listed: xrefL08D (initial proposal by the defendant), xrefL08P (rejoinder by the plaintiff), and xrefL08C (original consensus of the negotiations, just listed for topic 103 because it was the same as refL09B for the other topics).
  - For topics 102-104, the Interactive task submissions from 2008 are additionally listed, renamed to have an "int08" prefix (i.e., int08A, int08B, int08C, int08H, int08P) to emphasize that they were produced under different conditions than this year's runs (in particular, the old relevance judgments were not available to last year's Interactive participants, and there was no opportunity to specify a separate subset for a highly relevant category). These runs are described in last year's papers using last year's identifiers (adhocpool08, ublegal08, Clearwell08, H52008 and PittSIST1 respectively).
- "K" or "K_h" is the number of documents in the result set being evaluated. "K" is the system's choice of the retrieval depth for maximizing F_1@K (i.e., when using All Relevant documents) and "K_h" is the

system's choice of the retrieval depth for maximizing F_1@K$_h$ (i.e., when just using Highly Relevant documents). For the participant runs, only the top-ranked K or K$_h$ documents are considered to be in the set when computing the scores in this table. For the reference runs (which did not rank the documents), K and K$_h$ are just the size of the result set. (From ":K:" in l07_eval output.)

- "Recall" is the estimated recall of the result set (also known as Recall@K or Recall@K$_h$). Recall is the estimated number of relevant documents retrieved divided by the estimated total number of relevant documents. (From ":est_K-Recall:" in l07_eval output.)

- "Precision" is the estimated precision of the result set (also known as Precision@K or Precision@K$_h$). Precision is the estimated number of relevant documents retrieved divided by the sum of the estimated number of relevant and non-relevant documents. (From ":est_K-Prec:" in l07_eval output.)

- "F_1" is the estimated F_1 score of the result set (also known as F_1@K or F_1@K$_h$). F_1 is 2*Precision*Recall/(Precision+Recall) or 0 if both Precision and Recall are 0. (From ":est_K-F1:" in l07_eval output.)

- "Gray" is the estimated percentage of the result set that was gray documents (also known as Gray@K or Gray@K$_h$). Please see the track overview paper for the definition of a gray document. (From ":est_K-Gray:" in l07_eval output.)

- "Fallout" is the estimated fallout of the result set (also known as Fallout@K or Fallout@K$_h$). Fallout is the estimated number of non-relevant documents retrieved divided by the estimated total number of non-relevant documents. (From ":est_K-Fallout:" in l07_eval output.)

- "LAM" is the estimated Logistic Average Misclassification percentage of the result set (also known as LAM@K or LAM@K$_h$). LAM was the main set-based measure of the TREC Spam Filtering tracks of 2005-2007. LAM is the logit-average of '1-Recall' and 'Fallout' (after smoothing these inputs with epsilon=0.5 to prevent 0 or 1 inputs). The logit-average tends to emphasize whichever input is closer to a 0 or a 1 (or equivalently, whichever is further from 0.5). (From ":est_K-lam:" in l07_eval output.)

- "Num. Judged" is the actual number of judged documents in the result set, followed in parentheses by the actual number of relevant (r), non-relevant (n) and gray (g) documents. Note that because non-uniform sampling was used (i.e., different parts of the result sets were sampled with different draw probabilities) the estimated numbers of relevant and non-relevant documents in a result set are not in general exactly proportional to the drawn numbers. Also note that for tables using All Relevant documents, 'r' includes both highly relevant and other relevant documents, whereas for tables just using Highly Relevant documents, 'r' just includes highly relevant documents and 'n' includes other relevant documents (along with the non-relevant documents). (From ":K-jg_ret:", ":K-rel_ret:", ":K-nonrel_ret:" and ":K-gray_ret:" in l07_eval output respectively.)

For the tables of rank-based scores, the table headings are as follows:

- "Run": The identifier of the run. Only the 10 experimental participant runs are included for rank-based tables because the reference runs did not specify a ranking of the documents.

- "Retrieved": The number of documents submitted by the run for this topic. (Participants were allowed to submit at most 1.5 million documents for each topic this year.)

- "P@B": Estimated Precision of the first B retrieved, where B is the number of documents matched by the final negotiated Boolean query. (B can be looked up from the K value of refL09B in the preceding table.) (From ":est_PB:" in l07_eval output.)

- "R@B": Estimated Recall of the first B retrieved. (From ":est_RB:" in l07_eval output.)

- "F_1@R" or "F_1@R$_h$": Estimated F_1 score of the first R or R$_h$ retrieved, where R is the estimated number of relevant documents (when using All Relevant documents) and R$_h$ is the estimated number of highly relevant documents (this number is provided in the caption of the table). The calculation actually uses the ceiling of R or R$_h$ (i.e., the smallest integer greater than or equal to R or R$_h$). Note that if all documents were judged, then "F_1@R" would be identical to "Recall@R" and "R-Precision" (but in estimated scores from sampling, these measures may only be approximately the same). (From ":est_R-F1:" in l07_eval output.)

- "R@ret": Estimated Recall of the entire set of documents retrieved by the run. (From ":est_R_set:" in l07_eval output.)

- "indAP": Induced Average Precision. Induced AP is the popular "average precision" measure after discarding unjudged documents. Note that the probabilities for estimation are not used for this measure (i.e., this is not infAP or statAP) and hence the true average precision is likely over-estimated (because there tended to be more sampling of the higher-ranked parts of the result sets). (From ":mapJudged:" in l07_eval output.)

- "GS10J" Generalized Success@10 on Judged Documents (1.08^{1-r} where r is the rank of the first relevant document, only counting judged documents, or zero if no relevant document is retrieved). (From ":GS10J:" in l07_eval output.)

- "First 10 Ret": The judgments of the top-10 ranked documents of the run. 'H' indicates judged highly relevant. 'R' indicates judged relevant. 'N' indicates judged non-relevant in tables using All Relevant documents, but also includes relevant documents that are not highly relevant in tables just using Highly Relevant documents. 'U' indicates a gray document (i.e., it was presented to the assessor but it was still left as unjudged). '-' indicates a document that was not in the sample selected for judging. (From ":relstring:" in l07_eval output.)

At the end, tables with the mean scores over the 10 topics are provided. Only runs listed for all 10 topics are included in the tables of mean scores. The rank-based tables include a couple of different columns. "S1J" is Success of the First Judged Document (i.e., how often the highest-ranked judged document was judged relevant). "Fields" are primarily based on the topic fields used by the run, as follows: 'b' Boolean query (final negotiated), 'C' complaint, 'd' defendant Boolean (initial proposal), 'i' instructions and definitions, 'p' plaintiff Boolean (rejoinder query), 'o' other negotiation history (Defendant2, Plaintiff2, etc.), 'c' original consensus Boolean (or final Boolean if Consensus1 field was not used), 'r' request text, 'v' B value, 'm' metadata fields were indexed, 'B' reference Boolean run was used, 'M' manual processing was involved, 'F' feedback run (old relevance assessments were used).

The set-based tables list the runs in descending order by F_1 (i.e., F_1@K or F_1@K$_h$), while the rank-based tables list the runs in descending order by F_1@R (or F_1@R$_h$).

As always for TREC experiments, it should be kept in mind that retrieval submissions typically are evaluating experimental techniques and do not necessarily reflect typical performance in practice. The test scenarios may have important differences from practical scenarios. Scores estimated from sampling inherently are subject to sampling error. Relevance assessments are also subject to error. Please consult the track overview paper and participant papers for more information on the research methodology and experiments conducted.

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09rvl	77644	0.128	0.257	**0.171**	0.000	0.010	0.211	538 (279r, 259n, 0g)
ucscra	1500000	0.501	0.065	0.114	0.009	0.205	0.336	991 (268r, 719n, 4g)
uclsi	1500000	0.465	0.058	0.102	0.009	0.215	0.359	976 (281r, 691n, 4g)
ucedlsi	1500000	0.412	0.053	0.094	0.010	0.207	0.379	1054 (318r, 731n, 5g)
fullset09	6910192	**1.000**	0.027	0.053	0.010	1.000	0.856	2500 (407r, 2069n, 24g)
watstack	10000	0.024	0.444	0.045	0.012	0.001	0.157	285 (222r, 62n, 1g)
watrrf	10000	0.018	0.299	0.033	0.011	0.001	0.203	299 (227r, 70n, 2g)
watlogistic	5000	0.014	0.464	0.028	0.021	0.001	0.152	233 (193r, 38n, 2g)
otL09frwF	3825	0.011	0.484	0.021	0.028	0.000	0.147	354 (235r, 117n, 2g)
otL09F	2175	0.007	0.646	0.015	**0.052**	0.000	0.110	238 (193r, 43n, 2g)
oldnon09	951	0.002	0.338	0.004	0.001	0.000	0.190	228 (90r, 137n, 1g)
oldrel09	307	0.002	**0.885**	0.003	0.000	**0.000**	**0.057**	119 (105r, 14n, 0g)
refL09B	648	0.002	0.374	0.003	0.001	0.000	0.178	85 (32r, 52n, 1g)
EmcRun1	648	0.001	0.315	0.002	0.002	0.000	0.198	67 (36r, 30n, 1g)

Table 1: Set-based Scores for Topic 7 using All Relevant documents (188571.3 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watrrf	1000	0.043	0.348	**0.077**	0.000	0.000	0.041	159 (80r, 79n, 0g)
watstack	1000	0.039	0.373	0.071	0.000	0.000	0.039	150 (75r, 75n, 0g)
watlogistic	500	0.031	0.443	0.058	0.000	**0.000**	0.034	132 (75r, 57n, 0g)
otL09rvl	7181	0.042	0.049	0.045	0.000	0.001	0.120	260 (79r, 181n, 0g)
oldrel09	307	0.023	**0.488**	0.044	0.000	**0.000**	**0.031**	119 (64r, 55n, 0g)
otL09F	202	0.014	0.456	0.027	0.000	**0.000**	0.033	79 (31r, 48n, 0g)
EmcRun1	648	0.014	0.158	0.026	0.002	0.000	0.068	67 (22r, 44n, 1g)
otL09frwF	202	0.011	0.321	0.020	0.004	**0.000**	0.044	126 (49r, 76n, 1g)
oldnon09	951	0.009	0.063	0.016	0.001	0.000	0.108	228 (20r, 207n, 1g)
refL09B	648	0.005	0.053	0.009	0.002	0.000	0.117	85 (14r, 70n, 1g)
ucedlsi	500	0.003	0.044	0.006	0.002	0.000	0.128	63 (10r, 52n, 1g)
ucscra	500	0.002	0.030	0.003	0.003	0.000	0.150	54 (6r, 47n, 1g)
fullset09	6910192	**1.000**	0.001	0.002	**0.010**	1.000	0.969	2500 (125r, 2351n, 24g)
uclsi	500	0.000	0.005	0.001	0.002	0.000	0.287	54 (2r, 51n, 1g)

Table 2: Set-based Scores for Topic 7 using only Highly Relevant documents (6872.6 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
otL09frwF	1500000	0.728	0.003	**0.185**	**0.624**	0.640	**1.000**	RHRRRHRHRR
otL09rvl	1500000	0.631	0.002	0.173	0.564	0.629	**1.000**	RRRHRRRNRR
watstack	1500000	0.904	0.003	0.164	0.528	0.690	**1.000**	HHHHHRHHHH
watrrf	1500000	0.846	0.003	0.162	0.571	0.710	**1.000**	HHRHHHHH-H
otL09F	1500000	0.731	**0.003**	0.143	0.567	**0.715**	**1.000**	RRRRRHHRRH
watlogistic	1500000	**0.934**	0.003	0.119	0.389	0.675	**1.000**	HHNHHHHHHH
ucscra	1500000	0.165	0.001	0.093	0.501	0.222	0.926	NRNNNN-NNN
ucedlsi	1500000	0.174	0.001	0.047	0.412	0.304	0.500	UNNNNNN-N-
uclsi	1500000	0.112	0.000	0.047	0.465	0.207	0.429	NNNNNNNN-N
EmcRun1	61061	0.315	0.001	0.020	0.019	0.142	**1.000**	HHRHHHHHHH

Table 3: Rank-based Scores for Topic 7 using All Relevant documents (188571.3 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
watrrf	1500000	**0.448**	0.037	**0.133**	**1.000**	0.562	**1.000**	HHNHHHHH-H
watstack	1500000	0.447	0.034	0.117	0.858	0.563	**1.000**	HHHHHNHHHH
otL09F	1500000	0.352	**0.041**	0.095	**1.000**	0.381	0.681	NNNNNHHNNH
otL09frwF	1500000	0.266	0.025	0.084	**1.000**	0.344	0.926	NHNNNHNHNN
watlogistic	1500000	0.395	0.032	0.074	0.587	**0.593**	**1.000**	HHNHHHHHHH
otL09rvl	1500000	0.244	0.016	0.041	0.973	0.316	0.794	NNNHNNNNNN
EmcRun1	61061	0.158	0.014	0.026	0.063	0.163	**1.000**	HHNHHHHHHH
ucedlsi	1500000	0.044	0.004	0.016	0.910	0.141	0.397	UNNNNNN-N-
uclsi	1500000	0.004	0.000	0.006	0.900	0.075	0.170	NNNNNNNN-N
ucscra	1500000	0.022	0.002	0.006	0.923	0.082	0.099	NNNNNN-NNN

Table 4: Rank-based Scores for Topic 7 using only Highly Relevant documents (6872.6 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
refL09B	7216	0.017	0.072	**0.028**	0.049	0.001	0.180	106 (31r, 62n, 13g)
fullset09	6910192	**1.000**	0.004	0.008	0.012	1.000	0.942	1500 (45r, 1415n, 40g)
otL09rvl	176715	0.029	0.004	0.007	0.024	0.026	0.486	447 (35r, 390n, 22g)
oldnon09	1259	0.004	0.107	0.007	0.015	0.000	0.151	178 (15r, 155n, 8g)
watlogistic	200	0.003	0.510	0.005	0.000	**0.000**	0.057	28 (16r, 12n, 0g)
watrrf	500	0.002	0.144	0.004	0.069	**0.000**	0.131	28 (12r, 14n, 2g)
ucscra	100000	0.009	0.003	0.004	0.028	0.013	0.545	275 (20r, 247n, 8g)
EmcRun1	7216	0.002	0.011	0.004	0.108	0.001	0.366	133 (10r, 117n, 6g)
watstack	500	0.002	0.159	0.003	0.092	**0.000**	0.124	25 (11r, 13n, 1g)
oldrel09	88	0.002	**0.637**	0.003	0.000	**0.000**	**0.045**	19 (12r, 7n, 0g)
ucedlsi	100000	0.008	0.002	0.003	0.026	0.015	0.579	374 (20r, 345n, 9g)
otL09F	105	0.001	0.318	0.002	0.000	**0.000**	0.083	18 (5r, 13n, 0g)
otL09frwF	144	0.001	0.230	0.002	**0.195**	**0.000**	0.101	43 (7r, 31n, 5g)
uclsi	100000	0.004	0.001	0.002	0.025	0.015	0.668	369 (15r, 346n, 8g)

Table 5: Set-based Scores for Topic 51 using All Relevant documents (26404.4 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
oldrel09	88	0.462	**0.458**	**0.460**	0.000	**0.000**	**0.003**	19 (8r, 11n, 0g)
watstack	50	0.249	0.395	0.305	0.000	**0.000**	0.003	14 (5r, 9n, 0g)
watrrf	50	0.249	0.395	0.305	0.000	**0.000**	0.003	14 (5r, 9n, 0g)
watlogistic	20	0.080	0.313	0.127	0.000	**0.000**	0.004	7 (2r, 5n, 0g)
otL09F	13	0.025	0.122	0.041	0.000	**0.000**	0.007	6 (1r, 5n, 0g)
oldnon09	1259	0.148	0.010	0.020	0.015	0.000	0.027	178 (1r, 169n, 8g)
refL09B	7216	0.610	0.006	0.013	0.049	0.001	0.024	106 (9r, 84n, 13g)
EmcRun1	7216	0.273	0.004	0.007	0.108	0.001	0.042	133 (3r, 124n, 6g)
otL09rvl	58593	0.505	0.001	0.001	0.039	0.009	0.084	298 (6r, 280n, 12g)
ucscra	300	0.000	0.000	0.000	0.000	**0.000**	0.068	20 (0r, 20n, 0g)
ucedlsi	300	0.000	0.000	0.000	0.090	**0.000**	0.058	19 (0r, 18n, 1g)
otL09frwF	13	0.000	0.000	0.000	**0.114**	**0.000**	0.016	9 (0r, 8n, 1g)
fullset09	6910192	**1.000**	0.000	0.000	0.012	1.000	0.997	1500 (11r, 1449n, 40g)
uclsi	300	0.000	0.000	0.000	0.000	**0.000**	0.066	25 (0r, 25n, 0g)

Table 6: Set-based Scores for Topic 51 using only Highly Relevant documents (67.0 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
otL09frwF	1500000	**0.072**	**0.018**	**0.025**	**0.382**	0.171	0.926	UN-RRN-RN-
otL09F	1500000	0.012	0.002	0.020	0.379	0.101	0.857	NN-H------
watlogistic	1500000	0.045	0.013	0.016	0.067	**0.299**	0.926	N------RH-
watstack	1500000	0.048	0.012	0.014	0.029	0.242	**1.000**	--RN---NR-
watrrf	1500000	0.048	0.009	0.014	0.332	0.244	**1.000**	RN---N---R
EmcRun1	52114	0.011	0.002	0.011	0.018	0.040	0.170	--NNN--NN-
otL09rvl	1500000	0.005	0.002	0.007	0.079	0.069	0.092	-N-N-NN--N
uclsi	100000	0.001	0.000	0.003	0.004	0.012	0.092	N--N-NN-N-
ucscra	100000	0.000	0.000	0.002	0.009	0.022	0.003	NNNN-N-N--
ucedlsi	100000	0.001	0.000	0.001	0.008	0.015	0.005	-NN-N---N-

Table 7: Rank-based Scores for Topic 51 using All Relevant documents (26404.4 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R_h	R@ret	indAP	GS10J	First 10 Ret
watlogistic	1500000	0.004	0.462	**0.354**	0.883	**0.303**	**0.857**	N------NH-
watstack	1500000	0.007	**0.710**	0.305	**1.000**	0.206	0.735	--NN---NN-
watrrf	1500000	**0.009**	**0.710**	0.305	**1.000**	0.198	0.681	NN---N---N
otL09F	1500000	0.005	0.412	0.083	**1.000**	0.093	**0.857**	NN-H------
otL09frwF	1500000	0.006	0.579	0.028	**1.000**	0.046	0.463	UN-NNN-NN-
ucscra	100000	0.000	0.000	0.000	0.638	0.012	0.000	NNNN-N-N--
ucedlsi	100000	0.000	0.000	0.000	0.412	0.006	0.000	-NN-N---N-
otL09rvl	1500000	0.002	0.164	0.000	**1.000**	0.021	0.000	-N-N-NN--N
EmcRun1	52114	0.004	0.273	0.000	0.833	0.019	0.001	--NNN--NN-
uclsi	100000	0.000	0.000	0.000	0.388	0.005	0.000	N--N-NN-N-

Table 8: Rank-based Scores for Topic 51 using only Highly Relevant documents (67.0 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09F	51135	0.176	0.794	**0.289**	0.000	0.002	0.079	489 (421r, 67n, 1g)
otL09frwF	51135	0.145	0.710	0.240	0.003	0.002	0.099	581 (439r, 140n, 2g)
watrrf	50000	0.141	0.797	0.240	0.000	0.001	0.080	469 (396r, 72n, 1g)
watstack	50000	0.139	0.788	0.236	0.000	0.001	0.082	480 (403r, 76n, 1g)
watlogistic	50000	0.132	0.711	0.222	0.000	0.002	0.099	447 (388r, 58n, 1g)
otL09rvl	112622	0.144	0.312	0.197	0.001	0.011	0.203	634 (437r, 195n, 2g)
fullset09	6910192	**1.000**	0.033	0.064	0.011	1.000	0.844	2500 (533r, 1947n, 20g)
uclsi	1500000	0.222	0.036	0.062	0.004	0.202	0.485	875 (313r, 559n, 3g)
ucedlsi	1500000	0.222	0.035	0.061	0.001	0.208	0.490	959 (372r, 585n, 2g)
ucscra	1500000	0.185	0.030	0.051	0.004	0.207	0.517	898 (322r, 573n, 3g)
oldrel09	734	0.003	0.953	0.006	0.000	**0.000**	0.039	229 (217r, 12n, 0g)
oldOrel09	721	0.003	0.953	0.006	0.000	**0.000**	0.040	226 (214r, 12n, 0g)
EmcRun1	331	0.001	0.431	0.002	0.000	**0.000**	0.175	44 (33r, 11n, 0g)
refL09B	331	0.001	0.792	0.001	**0.054**	**0.000**	0.087	91 (74r, 16n, 1g)
oldnon09	1139	0.000	0.163	0.001	0.000	0.000	0.295	138 (39r, 99n, 0g)
oldHrel09	13	0.000	**1.000**	0.000	0.000	**0.000**	**0.036**	3 (3r, 0n, 0g)

Table 9: Set-based Scores for Topic 80 using All Relevant documents (227596.2 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09rvl	22205	0.125	0.280	**0.173**	0.001	0.002	0.114	475 (270r, 204n, 1g)
otL09F	5054	0.069	0.625	0.123	0.000	0.000	0.060	289 (210r, 79n, 0g)
watrrf	5000	0.063	0.624	0.115	0.000	0.000	0.061	275 (211r, 64n, 0g)
watstack	5000	0.063	0.611	0.115	0.000	0.000	0.062	275 (212r, 63n, 0g)
otL09frwF	5054	0.059	0.505	0.106	0.022	0.000	0.076	372 (242r, 128n, 2g)
watlogistic	5000	0.048	0.649	0.090	0.000	0.000	0.058	311 (236r, 75n, 0g)
oldrel09	734	0.010	0.540	0.020	0.000	0.000	0.073	229 (175r, 54n, 0g)
oldOrel09	721	0.010	0.534	0.019	0.000	0.000	0.074	226 (172r, 54n, 0g)
fullset09	6910192	**1.000**	0.007	0.015	0.011	1.000	0.921	2500 (309r, 2171n, 20g)
refL09B	331	0.003	0.684	0.005	**0.054**	**0.000**	0.055	91 (62r, 28n, 1g)
ucedlsi	600	0.001	0.122	0.003	0.000	0.000	0.186	32 (1r, 31n, 0g)
EmcRun1	331	0.001	0.114	0.002	0.000	**0.000**	0.192	44 (23r, 21n, 0g)
oldnon09	1139	0.001	0.066	0.002	0.000	0.000	0.243	138 (11r, 127n, 0g)
oldHrel09	13	0.000	**1.000**	0.001	0.000	**0.000**	**0.017**	3 (3r, 0n, 0g)
uclsi	600	0.000	0.000	0.000	0.000	0.000	0.727	26 (0r, 26n, 0g)
ucscra	600	0.000	0.000	0.000	0.000	0.000	0.748	27 (0r, 27n, 0g)

Table 10: Set-based Scores for Topic 80 using only Highly Relevant documents (50387.9 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
watrrf	1500000	0.900	0.001	**0.417**	0.652	**0.859**	**1.000**	HRRHHRRHH-
watstack	1500000	0.928	**0.001**	0.408	0.640	0.854	**1.000**	RHRHH-H-R-
otL09frwF	1500000	0.934	**0.001**	0.362	0.649	0.795	**1.000**	HHNHRHHRNR
otL09F	1500000	**0.990**	0.001	0.335	0.573	0.831	**1.000**	HHRHHN--H-
watlogistic	1500000	0.903	0.001	0.310	**0.677**	0.851	**1.000**	HHHHHHHHR-
otL09rvl	1500000	0.982	0.001	0.210	0.441	0.804	**1.000**	HRRRH-H-HH
ucscra	1500000	0.147	0.000	0.034	0.185	0.232	0.199	NNNNN---N-
uclsi	1500000	0.000	0.000	0.029	0.222	0.175	0.146	NNNN---NNN
ucedlsi	1500000	0.219	0.000	0.017	0.222	0.273	0.584	NNNNN-N-N-
EmcRun1	802	0.431	0.001	0.002	0.001	0.113	**1.000**	HNHHHHNR-H

Table 11: Rank-based Scores for Topic 80 using All Relevant documents (227596.2 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
watrrf	1500000	0.762	0.004	**0.295**	0.514	0.730	**1.000**	HNNHHNNHH-
otL09F	1500000	0.812	0.005	0.245	0.471	0.698	**1.000**	HHNHHN--H-
otL09frwF	1500000	0.732	0.005	0.235	0.375	0.651	**1.000**	HHNHNHHNNN
watstack	1500000	0.843	**0.006**	0.231	0.514	0.726	0.926	NHNHH-H-N-
watlogistic	1500000	0.771	0.004	0.216	**0.788**	**0.767**	**1.000**	HHHHHHHHN-
otL09rvl	1500000	**0.872**	0.004	0.154	0.375	0.677	**1.000**	HNNNH-H-HH
ucscra	1500000	0.000	0.000	0.009	0.240	0.193	0.054	NNNNN---N-
ucedlsi	1500000	0.211	0.001	0.008	0.225	0.203	0.107	NNNNN-N-N-
uclsi	1500000	0.000	0.000	0.005	0.301	0.134	0.029	NNNN---NNN
EmcRun1	802	0.114	0.001	0.003	0.003	0.110	**1.000**	HNHHHHNN-H

Table 12: Rank-based Scores for Topic 80 using only Highly Relevant documents (50387.9 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watlogistic	10000	0.107	0.402	**0.169**	0.000	0.001	0.060	165 (137r, 28n, 0g)
otL09F	13580	0.117	0.288	0.167	0.000	0.001	0.076	208 (156r, 52n, 0g)
otL09frwF	20973	0.124	0.200	0.153	0.000	0.002	0.095	266 (162r, 104n, 0g)
watstack	5000	0.059	0.384	0.103	0.000	0.000	0.064	154 (131r, 23n, 0g)
watrrf	5000	0.055	0.242	0.090	**0.163**	0.001	0.088	148 (122r, 25n, 1g)
otL09rvl	128500	0.287	0.048	0.082	0.028	0.018	0.176	343 (167r, 175n, 1g)
EmcRun1	3636	0.049	0.227	0.080	0.000	0.001	0.091	110 (88r, 22n, 0g)
refL09B	3636	0.022	0.116	0.037	0.000	0.001	0.132	81 (44r, 37n, 0g)
ucedlsi	1500000	0.659	0.009	0.018	0.002	0.218	0.275	638 (167r, 470n, 1g)
oldrel09	201	0.009	0.976	0.018	0.000	**0.000**	0.009	64 (62r, 2n, 0g)
oldOrel09	164	0.008	**1.000**	0.015	0.000	**0.000**	**0.003**	55 (55r, 0n, 0g)
uclsi	1500000	0.425	0.006	0.012	0.000	0.218	0.381	613 (166r, 447n, 0g)
ucscra	1500000	0.289	0.004	0.008	0.000	0.218	0.453	579 (153r, 426n, 0g)
fullset09	6910192	**1.000**	0.003	0.006	0.002	1.000	0.947	1250 (172r, 1074n, 4g)
oldnon09	607	0.003	0.094	0.005	0.000	0.000	0.147	74 (27r, 47n, 0g)
oldHrel09	37	0.001	0.791	0.002	0.000	**0.000**	0.029	9 (7r, 2n, 0g)

Table 13: Set-based Scores for Topic 89 using All Relevant documents (21451.7 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watlogistic	1000	0.773	0.700	**0.735**	0.000	**0.000**	**0.004**	102 (71r, 31n, 0g)
watrrf	500	0.466	**0.828**	0.596	0.000	**0.000**	0.004	87 (62r, 25n, 0g)
watstack	500	0.467	0.791	0.587	0.000	**0.000**	0.005	84 (60r, 24n, 0g)
otL09F	4804	0.858	0.220	0.350	0.000	0.000	0.009	177 (84r, 93n, 0g)
otL09frwF	4804	0.968	0.209	0.344	0.000	0.001	0.004	220 (86r, 134n, 0g)
oldrel09	201	0.133	0.673	0.223	0.000	**0.000**	0.008	64 (41r, 23n, 0g)
oldOrel09	164	0.120	0.687	0.205	0.000	**0.000**	0.008	55 (36r, 19n, 0g)
EmcRun1	3636	0.429	0.109	0.174	0.000	0.001	0.026	110 (56r, 54n, 0g)
refL09B	3636	0.245	0.065	0.102	0.000	0.001	0.039	81 (27r, 54n, 0g)
otL09rvl	23970	0.891	0.042	0.080	0.000	0.003	0.019	258 (86r, 172n, 0g)
oldHrel09	37	0.013	0.562	0.025	0.000	**0.000**	0.011	9 (5r, 4n, 0g)
oldnon09	607	0.014	0.024	0.018	0.000	0.000	0.071	74 (7r, 67n, 0g)
ucscra	100	0.002	0.021	0.004	0.000	**0.000**	0.069	12 (1r, 11n, 0g)
fullset09	6910192	**1.000**	0.000	0.000	**0.002**	1.000	0.988	1250 (88r, 1158n, 4g)
uclsi	100	0.000	0.000	0.000	0.000	**0.000**	0.077	6 (0r, 6n, 0g)
ucedlsi	100	0.000	0.000	0.000	0.000	**0.000**	0.147	12 (0r, 12n, 0g)

Table 14: Set-based Scores for Topic 89 using only Highly Relevant documents (1019.0 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
otL09F	1500000	0.460	0.067	**0.248**	0.867	**0.919**	**1.000**	-H--HH----
otL09frwF	1500000	0.441	0.072	0.153	0.867	0.866	**1.000**	HH-HH-RH--
watlogistic	1500000	**0.562**	**0.096**	0.149	0.387	0.884	**1.000**	HHH---R---
watstack	1500000	0.407	0.057	0.118	0.550	0.888	**1.000**	H-R-H-H-H-
otL09rvl	1500000	0.456	0.066	0.086	**1.000**	0.852	**1.000**	R--R---R--
watrrf	1500000	0.491	0.052	0.086	0.550	0.899	**1.000**	---H-HHH-H
EmcRun1	18401	0.227	0.049	0.076	0.065	0.467	**1.000**	RRH-HN---R
ucscra	1500000	0.171	0.021	0.054	0.289	0.486	0.735	NN-N-N----
ucedlsi	1500000	0.066	0.012	0.052	0.659	0.464	0.540	--N-N-N---
uclsi	1500000	0.003	0.000	0.052	0.425	0.340	0.681	N--N-NN---

Table 15: Rank-based Scores for Topic 89 using All Relevant documents (21451.7 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
watlogistic	1500000	0.218	0.786	**0.735**	**1.000**	0.672	**1.000**	HHH---N---
watrrf	1500000	**0.355**	0.786	0.703	**1.000**	0.672	**1.000**	---H-HHH-H
watstack	1500000	0.277	0.821	0.700	**1.000**	0.654	**1.000**	H-N-H-H-H-
otL09F	1500000	0.281	0.854	0.689	**1.000**	**0.764**	**1.000**	-H--HH----
otL09rvl	1500000	0.276	0.842	0.627	**1.000**	0.477	0.735	N--N---N--
otL09frwF	1500000	0.267	**0.917**	0.621	**1.000**	0.633	**1.000**	HH-HH-NH--
EmcRun1	18401	0.109	0.429	0.256	0.444	0.283	0.857	NNH-HN---N
ucscra	1500000	0.060	0.153	0.029	0.963	0.275	0.463	NN-N-N----
ucedlsi	1500000	0.018	0.064	0.019	0.997	0.232	0.341	--N-N-N---
uclsi	1500000	0.000	0.000	0.000	0.997	0.166	0.031	N--N-NN---

Table 16: Rank-based Scores for Topic 89 using only Highly Relevant documents (1019.0 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watlogistic	500000	0.393	0.429	**0.410**	0.008	0.042	0.207	906 (717r, 188n, 1g)
ucedlsi	600000	0.412	0.355	0.382	0.003	0.060	0.232	1044 (734r, 309n, 1g)
uclsi	600000	0.410	0.341	0.373	0.003	0.064	0.238	1026 (723r, 302n, 1g)
int08A	546126	0.356	0.355	0.356	0.004	0.052	0.240	1124 (740r, 383n, 1g)
watstack	1000000	0.516	0.263	0.348	0.004	0.117	0.261	1058 (744r, 313n, 1g)
watrrf	1000000	0.506	0.259	0.342	0.006	0.117	0.265	1069 (744r, 323n, 2g)
otL09F	712174	0.409	0.290	0.340	0.000	0.081	0.263	954 (724r, 230n, 0g)
ucscra	600000	0.346	0.289	0.315	**0.009**	0.069	0.272	920 (636r, 282n, 2g)
otL09frwF	1219733	0.540	0.219	0.311	0.002	0.156	0.284	1140 (753r, 386n, 1g)
xrefL08P	113796	0.166	0.678	0.267	0.000	0.006	0.152	617 (563r, 54n, 0g)
refL09B	86742	0.134	0.711	0.226	0.000	0.004	0.144	553 (506r, 47n, 0g)
otL09rvl	79960	0.126	0.668	0.213	0.000	0.005	0.158	686 (630r, 56n, 0g)
EmcRun1	86742	0.112	0.612	0.189	0.000	0.006	0.176	575 (515r, 60n, 0g)
fullset09	6910192	**1.000**	0.075	0.139	0.002	1.000	0.779	2500 (818r, 1678n, 4g)
int08C	13695	0.018	0.650	0.036	0.000	0.001	0.171	357 (344r, 13n, 0g)
int08P	4505	0.009	0.824	0.017	0.000	0.000	0.116	244 (238r, 6n, 0g)
oldrel09	1548	0.003	0.901	0.005	0.000	**0.000**	0.086	38 (37r, 1n, 0g)
xrefL08D	980	0.002	**0.998**	0.004	0.000	**0.000**	**0.014**	110 (109r, 1n, 0g)
oldnon09	2887	0.000	0.000	0.000	0.000	0.000	0.925	11 (1r, 10n, 0g)

Table 17: Set-based Scores for Topic 102 using All Relevant documents (518643.9 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watlogistic	50000	0.396	0.267	**0.319**	0.000	0.006	0.089	559 (289r, 270n, 0g)
watrrf	100000	0.442	0.161	0.236	0.000	0.013	0.116	680 (317r, 363n, 0g)
watstack	100000	0.442	0.152	0.227	0.000	0.014	0.119	682 (316r, 366n, 0g)
otL09frwF	78736	0.320	0.146	0.200	0.000	0.011	0.132	691 (319r, 372n, 0g)
otL09F	78736	0.275	0.147	0.191	0.000	0.009	0.136	629 (303r, 326n, 0g)
otL09rvl	22141	0.142	0.248	0.180	0.000	0.003	0.109	532 (289r, 243n, 0g)
xrefL08P	113796	0.373	0.117	0.178	0.000	0.016	0.143	617 (272r, 345n, 0g)
refL09B	86742	0.283	0.115	0.164	0.000	0.013	0.152	553 (251r, 302n, 0g)
EmcRun1	86742	0.276	0.116	0.163	0.000	0.012	0.152	575 (260r, 315n, 0g)
int08C	13695	0.086	0.234	0.126	0.000	0.002	0.116	357 (207r, 150n, 0g)
int08P	4505	0.063	**0.464**	0.111	0.000	0.000	**0.073**	244 (158r, 86n, 0g)
int08A	546126	0.730	0.056	0.104	**0.004**	0.071	0.144	1124 (331r, 792n, 1g)
oldrel09	1548	0.017	0.435	0.034	0.000	**0.000**	0.079	38 (23r, 15n, 0g)
xrefL08D	980	0.012	0.453	0.024	0.000	**0.000**	0.077	110 (67r, 43n, 0g)
ucscra	1000	0.010	0.314	0.019	0.000	**0.000**	0.100	181 (72r, 109n, 0g)
fullset09	6910192	**1.000**	0.006	0.011	0.002	1.000	0.929	2500 (334r, 2162n, 4g)
ucedlsi	1000	0.004	0.181	0.007	0.000	**0.000**	0.139	142 (35r, 107n, 0g)
uclsi	1000	0.000	0.006	0.000	0.000	**0.000**	0.484	107 (6r, 101n, 0g)
oldnon09	2887	0.000	0.000	0.000	0.000	0.000	0.769	11 (1r, 10n, 0g)

Table 18: Set-based Scores for Topic 102 using only Highly Relevant documents (39885.8 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
watlogistic	1500000	0.723	0.131	**0.403**	**0.614**	0.889	**1.000**	RRHRRHRHRH
ucedlsi	600000	0.411	0.079	0.386	0.412	0.608	0.463	NNNNNNNNNN
watrrf	1500000	0.704	0.124	0.385	0.582	0.891	**1.000**	HRRHHHRRHH
watstack	1500000	0.698	**0.138**	0.376	0.583	0.890	**1.000**	HHHHRHRRRH
otL09frwF	1500000	**0.738**	0.136	0.366	0.594	0.892	**1.000**	RHHHRHHRHH
otL09F	1500000	0.697	0.103	0.362	0.553	0.871	**1.000**	RRHHHHHRRH
uclsi	600000	0.366	0.070	0.351	0.410	0.570	0.630	NNNNNNRNRN
otL09rvl	1500000	0.660	0.130	0.345	0.595	**0.894**	**1.000**	HHRRHRHHHH
ucscra	600000	0.471	0.092	0.331	0.346	0.558	**1.000**	RHNRHNNNNH
EmcRun1	219933	0.612	0.112	0.164	0.168	0.611	**1.000**	HRHNRNRHRR

Table 19: Rank-based Scores for Topic 102 using All Relevant documents (518643.9 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
watstack	1500000	0.172	**0.442**	**0.240**	0.994	0.620	**1.000**	HHHHNHNNNH
otL09frwF	1500000	0.134	0.320	0.233	0.793	**0.635**	0.926	NHHHNHHNHH
watrrf	1500000	0.142	0.325	0.232	0.996	0.622	**1.000**	HNNHHHNNHH
watlogistic	1500000	**0.175**	0.412	0.230	0.928	0.567	0.857	NNHNNHNHNH
otL09F	1500000	0.155	0.298	0.210	0.721	0.625	0.857	NNHHHHHNNH
otL09rvl	1500000	0.118	0.291	0.184	**1.000**	0.634	**1.000**	HHNNHNHHHH
EmcRun1	219933	0.116	0.276	0.182	0.372	0.428	**1.000**	HNHNNNNHNN
ucedlsi	600000	0.102	0.247	0.179	0.882	0.364	0.011	NNNNNNNNNN
ucscra	600000	0.079	0.186	0.150	0.789	0.339	0.926	NHNNHNNNNH
uclsi	600000	0.087	0.207	0.119	0.767	0.322	0.001	NNNNNNNNNN

Table 20: Rank-based Scores for Topic 102 using only Highly Relevant documents (39885.8 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watstack	1000000	0.563	0.586	**0.574**	0.000	0.072	0.198	976 (738r, 238n, 0g)
watrrf	1000000	0.556	0.569	0.562	0.000	0.077	0.205	1004 (749r, 254n, 1g)
watlogistic	1000000	0.536	0.583	0.559	0.000	0.070	0.203	910 (702r, 208n, 0g)
int08H	608807	0.399	0.694	0.507	0.000	0.032	0.183	724 (583r, 140n, 1g)
otL09frwF	1118530	0.513	0.500	0.506	0.000	0.094	0.238	1138 (787r, 350n, 1g)
otL09F	865548	0.431	0.539	0.479	0.000	0.067	0.236	1035 (750r, 285n, 0g)
int08A	837889	0.328	0.416	0.366	0.000	0.084	0.302	1206 (749r, 455n, 2g)
otL09rvl	397145	0.239	0.660	0.351	0.000	0.022	0.213	872 (668r, 204n, 0g)
xrefL08P	280383	0.199	0.745	0.314	0.000	0.012	0.184	780 (616r, 163n, 1g)
ucscra	1500000	0.385	0.258	0.309	0.009	0.201	0.388	1130 (642r, 482n, 6g)
uclsi	1500000	0.343	0.244	0.285	0.006	0.194	0.404	1157 (652r, 499n, 6g)
ucedlsi	1500000	0.324	0.244	0.279	0.007	0.182	0.406	1125 (627r, 492n, 6g)
fullset09	6910192	**1.000**	0.154	0.267	**0.012**	1.000	0.701	2500 (916r, 1564n, 20g)
xrefL08C	140680	0.107	0.782	0.189	0.000	0.005	0.176	637 (514r, 122n, 1g)
int08C	175455	0.108	0.706	0.188	0.000	0.008	0.207	559 (460r, 98n, 1g)
EmcRun1	80225	0.051	0.733	0.095	0.000	0.003	0.201	522 (423r, 98n, 1g)
refL09B	80225	0.049	0.714	0.091	0.000	0.004	0.209	494 (394r, 100n, 0g)
int08B	67334	0.036	0.570	0.068	0.000	0.005	0.267	240 (205r, 35n, 0g)
xrefL08D	35290	0.026	0.673	0.050	0.000	0.002	0.227	329 (266r, 62n, 1g)
int08P	25816	0.018	**0.888**	0.036	0.000	0.000	**0.131**	184 (155r, 29n, 0g)
oldrel09	2981	0.001	0.527	0.003	0.000	**0.000**	0.288	12 (9r, 3n, 0g)
oldnon09	3440	0.000	0.000	0.000	0.000	0.001	0.973	6 (0r, 6n, 0g)

Table 21: Set-based Scores for Topic 103 using All Relevant documents (1046833.8 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
int08H	608807	0.616	0.193	**0.294**	0.000	0.073	0.182	724 (176r, 547n, 1g)
otL09F	110161	0.190	**0.350**	0.246	0.000	0.010	**0.172**	510 (138r, 372n, 0g)
xrefL08P	280383	0.286	0.194	0.231	0.000	0.034	0.229	780 (169r, 610n, 1g)
otL09rvl	166448	0.214	0.229	0.221	0.000	0.021	0.217	711 (156r, 555n, 0g)
watlogistic	100000	0.151	0.325	0.207	0.000	0.009	0.184	321 (100r, 221n, 0g)
watstack	100000	0.150	0.310	0.203	0.000	0.010	0.190	316 (106r, 210n, 0g)
int08C	175455	0.185	0.218	0.200	0.000	0.019	0.226	559 (134r, 424n, 1g)
xrefL08C	140680	0.156	0.205	0.177	0.000	0.017	0.236	637 (146r, 490n, 1g)
int08A	837889	0.452	0.103	0.168	0.000	0.112	0.281	1206 (196r, 1008n, 2g)
watrrf	100000	0.106	0.276	0.153	0.000	0.008	0.206	318 (100r, 218n, 0g)
otL09frwF	110161	0.110	0.206	0.144	0.000	0.012	0.239	688 (152r, 536n, 0g)
EmcRun1	80225	0.073	0.191	0.106	0.000	0.009	0.252	522 (118r, 403n, 1g)
refL09B	80225	0.061	0.162	0.089	0.000	0.009	0.273	494 (105r, 389n, 0g)
int08B	67334	0.057	0.162	0.085	0.000	0.009	0.273	240 (60r, 180n, 0g)
int08P	25816	0.034	0.295	0.060	0.000	0.002	0.205	184 (42r, 142n, 0g)
fullset09	6910192	**1.000**	0.028	0.054	**0.012**	1.000	0.855	2500 (224r, 2256n, 20g)
xrefL08D	35290	0.022	0.105	0.036	0.000	0.005	0.328	329 (64r, 264n, 1g)
ucscra	500	0.000	0.132	0.001	0.009	**0.000**	0.302	37 (7r, 28n, 2g)
uclsi	500	0.000	0.077	0.000	0.002	**0.000**	0.367	41 (3r, 37n, 1g)
ucedlsi	500	0.000	0.002	0.000	0.003	**0.000**	0.750	42 (1r, 40n, 1g)
oldrel09	2981	0.000	0.002	0.000	0.000	0.000	0.795	12 (2r, 10n, 0g)
oldnon09	3440	0.000	0.000	0.000	0.000	0.001	0.933	6 (0r, 6n, 0g)

Table 22: Set-based Scores for Topic 103 using only Highly Relevant documents (188783.9 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
watstack	1500000	**0.942**	0.064	**0.583**	**0.709**	**0.789**	**1.000**	HRRR--HRN-
watrrf	1500000	0.938	0.056	0.563	0.665	0.779	**1.000**	RRRRHHH-R-
watlogistic	1500000	0.862	0.060	0.559	0.655	0.733	**1.000**	RHRRR-RNN-
otL09frwF	1500000	0.812	0.062	0.502	0.598	0.733	**1.000**	HRRRRRRR-R
otL09F	1500000	0.940	**0.069**	0.479	0.543	0.752	**1.000**	RHHRNH---R
otL09rvl	1500000	0.725	0.062	0.446	0.489	0.711	**1.000**	RRRRR-R-HR
EmcRun1	561627	0.733	0.051	0.295	0.306	0.591	**1.000**	RRHR--HN-N
ucscra	1500000	0.363	0.032	0.281	0.385	0.435	0.857	NUNR-RNN--
uclsi	1500000	0.190	0.013	0.238	0.343	0.375	0.630	NNNNN-NRN-
ucedlsi	1500000	0.293	0.020	0.236	0.324	0.373	0.735	NNNNURNNH-

Table 23: Rank-based Scores for Topic 103 using All Relevant documents (1046833.8 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
otL09F	1500000	0.308	**0.125**	**0.312**	0.686	0.295	0.926	NHHNNH---N
watlogistic	1500000	**0.323**	0.125	0.293	**0.869**	0.277	0.926	NHNNN-NNN-
watrrf	1500000	0.262	0.086	0.290	0.798	0.302	0.735	NNNNHHH-N-
watstack	1500000	0.305	0.115	0.288	0.843	**0.313**	**1.000**	HNNN--HNN-
otL09frwF	1500000	0.207	0.087	0.230	0.708	0.223	**1.000**	HNNNNNNN-N
otL09rvl	1500000	0.248	0.117	0.218	0.621	0.190	0.630	NNNNN-N-HN
EmcRun1	561627	0.191	0.073	0.184	0.341	0.172	0.857	NNHN--HN-N
ucscra	1500000	0.078	0.036	0.058	0.393	0.106	0.540	NUNN-NNN--
ucedlsi	1500000	0.031	0.012	0.018	0.386	0.080	0.584	NNNNUNNNH-
uclsi	1500000	0.004	0.001	0.016	0.408	0.088	0.500	NNNNN-NNN-

Table 24: Rank-based Scores for Topic 103 using only Highly Relevant documents (188783.9 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
fullset09	6910192	**1.000**	0.066	**0.123**	0.001	1.000	0.790	2500 (266r, 2233n, 1g)
ucedlsi	300000	0.082	0.127	0.100	0.000	0.040	0.405	770 (156r, 614n, 0g)
int08A	689548	0.089	0.058	0.070	0.000	0.101	0.517	1141 (174r, 967n, 0g)
uclsi	300000	0.056	0.092	0.070	0.000	0.039	0.452	730 (151r, 579n, 0g)
ucscra	300000	0.054	0.085	0.066	0.000	0.041	0.464	589 (126r, 463n, 0g)
watlogistic	500000	0.060	0.057	0.059	**0.010**	0.070	0.520	640 (140r, 499n, 1g)
otL09frwF	67441	0.025	0.201	0.044	0.000	0.007	0.344	578 (140r, 438n, 0g)
watstack	50000	0.020	0.197	0.037	0.000	0.006	0.347	343 (109r, 234n, 0g)
otL09F	50174	0.018	0.173	0.033	0.000	0.006	0.365	290 (92r, 198n, 0g)
watrrf	50000	0.017	0.181	0.030	0.000	0.005	0.359	327 (100r, 227n, 0g)
otL09rvl	47973	0.016	0.193	0.029	0.000	0.005	0.351	488 (130r, 358n, 0g)
EmcRun1	2680	0.001	0.242	0.003	0.000	0.000	0.319	94 (19r, 75n, 0g)
xrefL08P	2682	0.001	0.091	0.001	0.000	0.000	0.456	166 (54r, 112n, 0g)
refL09B	2680	0.001	0.091	0.001	0.000	0.000	0.456	166 (54r, 112n, 0g)
int08C	549	0.000	0.289	0.001	0.000	0.000	0.294	111 (58r, 53n, 0g)
oldrel09	92	0.000	**0.463**	0.000	0.000	**0.000**	**0.222**	34 (17r, 17n, 0g)
oldnon09	2391	0.000	0.020	0.000	0.000	0.000	0.650	36 (11r, 25n, 0g)
xrefL08D	16	0.000	0.350	0.000	0.000	**0.000**	0.262	13 (5r, 8n, 0g)

Table 25: Set-based Scores for Topic 104 using All Relevant documents (449829.6 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
fullset09	6910192	**1.000**	0.013	**0.025**	**0.001**	1.000	0.898	2500 (57r, 2442n, 1g)
int08A	689548	0.099	0.013	0.022	0.000	0.100	0.501	1141 (38r, 1103n, 0g)
watstack	5000	0.007	0.108	0.013	0.000	0.001	0.245	154 (12r, 142n, 0g)
watlogistic	50000	0.009	0.016	0.012	0.000	0.007	0.469	295 (17r, 278n, 0g)
otL09F	6386	0.006	0.125	0.011	0.000	0.001	0.230	145 (9r, 136n, 0g)
otL09rvl	8580	0.002	0.024	0.004	0.000	0.001	0.421	326 (21r, 305n, 0g)
otL09frwF	6386	0.002	0.030	0.004	0.000	0.001	0.391	337 (20r, 317n, 0g)
watrrf	5000	0.002	0.028	0.003	0.000	0.001	0.402	162 (11r, 151n, 0g)
EmcRun1	2680	0.001	0.041	0.002	0.000	0.000	0.352	94 (6r, 88n, 0g)
refL09B	2680	0.001	0.019	0.001	0.000	0.000	0.449	166 (10r, 156n, 0g)
xrefL08P	2682	0.001	0.019	0.001	0.000	0.000	0.449	166 (10r, 156n, 0g)
int08C	549	0.001	0.077	0.001	0.000	0.000	0.281	111 (11r, 100n, 0g)
oldnon09	2391	0.000	0.011	0.001	0.000	0.000	0.521	36 (4r, 32n, 0g)
ucscra	300	0.000	0.096	0.001	0.000	**0.000**	0.256	66 (5r, 61n, 0g)
oldrel09	92	0.000	**0.151**	0.000	0.000	**0.000**	**0.209**	34 (2r, 32n, 0g)
ucedlsi	300	0.000	0.020	0.000	0.000	**0.000**	0.431	56 (5r, 51n, 0g)
uclsi	300	0.000	0.010	0.000	0.000	**0.000**	0.511	34 (3r, 31n, 0g)
xrefL08D	16	0.000	0.063	0.000	0.000	**0.000**	0.267	13 (1r, 12n, 0g)

Table 26: Set-based Scores for Topic 104 using only Highly Relevant documents (86689.5 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
watstack	1500000	0.272	**0.002**	**0.114**	**0.335**	**0.295**	**1.000**	RRRNNRRRRR
otL09rvl	1500000	0.234	0.002	0.111	0.251	0.244	**1.000**	HRRNNNHNHR
otL09frwF	1500000	0.166	0.001	0.095	0.223	0.247	0.857	NNRRNHNRNR
ucedlsi	300000	0.053	0.000	0.083	0.082	0.159	0.463	NNNNNNN-NN
otL09F	1500000	**0.375**	0.002	0.075	0.262	0.257	0.857	NNRRNNNRN-
watrrf	1500000	0.251	0.002	0.074	0.273	0.282	**1.000**	RNRRRRRRR-
uclsi	300000	0.155	0.001	0.059	0.056	0.146	0.315	NNNNNNNN--
ucscra	300000	0.274	0.002	0.055	0.054	0.190	**1.000**	RNRRNHRRR-
watlogistic	1500000	0.147	0.001	0.050	0.226	0.238	**1.000**	RNNNNRNRRR
EmcRun1	214606	0.242	0.001	0.023	0.023	0.073	0.630	NNNNNNRNRN

Table 27: Rank-based Scores for Topic 104 using All Relevant documents (449829.6 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R_h	R@ret	indAP	GS10J	First 10 Ret
ucscra	300000	0.017	0.001	**0.047**	0.051	0.028	0.681	NNNNNHNNN-
otL09rvl	1500000	0.057	0.002	0.045	0.305	**0.082**	**1.000**	HNNNNNHNHN
watstack	1500000	0.045	0.001	0.030	**0.517**	0.047	0.158	NNNNNNNNNN
otL09frwF	1500000	0.016	0.000	0.025	0.170	0.051	0.681	NNNNNHNNNN
uclsi	300000	**0.102**	**0.004**	0.021	0.096	0.034	0.116	NNNNNNNN--
watrrf	1500000	0.048	0.001	0.020	0.370	0.043	0.184	NNNNNNNNN-
ucedlsi	300000	0.014	0.000	0.013	0.065	0.036	0.215	NNNNNNN-NN
otL09F	1500000	0.009	0.000	0.012	0.226	0.039	0.116	NNNNNNNNN-
EmcRun1	214606	0.041	0.001	0.011	0.017	0.021	0.341	NNNNNNNNNN
watlogistic	1500000	0.048	0.001	0.011	0.206	0.034	0.184	NNNNNNNNNN

Table 28: Rank-based Scores for Topic 104 using only Highly Relevant documents (86689.5 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09F	62656	0.296	0.393	**0.338**	0.001	0.007	0.116	467 (294r, 169n, 4g)
watstack	50000	0.247	0.370	0.297	0.001	0.007	0.124	450 (271r, 177n, 2g)
otL09frwF	85832	0.244	0.271	0.257	0.002	0.010	0.152	716 (305r, 403n, 8g)
watlogistic	20000	0.140	0.598	0.226	0.003	0.002	0.087	315 (234r, 79n, 2g)
uclsi	400000	0.519	0.137	0.217	0.006	0.051	0.183	859 (313r, 533n, 13g)
ucedlsi	400000	0.475	0.121	0.193	0.006	0.054	0.201	926 (309r, 599n, 18g)
watrrf	20000	0.099	0.583	0.169	0.004	0.001	0.091	279 (211r, 66n, 2g)
ucscra	400000	0.396	0.102	0.163	0.006	0.055	0.229	735 (273r, 451n, 11g)
EmcRun1	36549	0.108	0.301	0.159	0.003	0.004	0.153	443 (215r, 225n, 3g)
otL09rvl	84821	0.151	0.167	0.159	0.003	0.012	0.206	667 (284r, 373n, 10g)
xrefL08P	185022	0.178	0.092	0.122	0.001	0.027	0.265	620 (253r, 364n, 3g)
refL09B	36549	0.044	0.124	0.065	0.003	0.005	0.246	383 (142r, 238n, 3g)
fullset09	6910192	**1.000**	0.015	0.030	0.027	1.000	0.889	2500 (330r, 2112n, 58g)
oldrel09	156	0.001	0.954	0.002	0.000	**0.000**	0.028	48 (43r, 5n, 0g)
oldOrel09	115	0.001	0.966	0.002	0.000	**0.000**	**0.025**	31 (28r, 3n, 0g)
oldnon09	540	0.000	0.066	0.001	**0.140**	0.000	0.319	135 (28r, 102n, 5g)
oldHrel09	41	0.000	0.900	0.000	0.000	**0.000**	0.044	17 (15r, 2n, 0g)
xrefL08D	2	0.000	**1.000**	0.000	0.000	**0.000**	0.053	2 (2r, 0n, 0g)

Table 29: Set-based Scores for Topic 105 using All Relevant documents (105960.3 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09rvl	23187	0.131	0.142	**0.136**	0.008	0.003	0.115	470 (65r, 398n, 7g)
otL09frwF	7230	0.051	0.136	0.074	0.014	0.001	0.122	450 (63r, 383n, 4g)
EmcRun1	36549	0.097	0.055	0.070	0.003	0.005	0.182	443 (66r, 374n, 3g)
watstack	5000	0.042	0.185	0.069	0.000	0.001	0.104	170 (48r, 122n, 0g)
otL09F	7230	0.030	0.083	0.044	0.000	0.001	0.156	173 (51r, 122n, 0g)
watrrf	2000	0.020	**0.227**	0.036	0.000	0.000	**0.093**	135 (39r, 96n, 0g)
watlogistic	2000	0.016	0.160	0.029	0.000	0.000	0.113	158 (47r, 111n, 0g)
xrefL08P	185022	0.127	0.015	0.026	0.001	0.027	0.304	620 (75r, 542n, 3g)
refL09B	36549	0.032	0.019	0.024	0.003	0.005	0.287	383 (39r, 341n, 3g)
fullset09	6910192	**1.000**	0.003	0.006	0.027	1.000	0.947	2500 (90r, 2352n, 58g)
uclsi	500	0.003	0.133	0.005	0.042	0.000	0.126	57 (9r, 44n, 4g)
ucscra	500	0.001	0.066	0.003	0.008	0.000	0.174	84 (15r, 67n, 2g)
oldrel09	156	0.001	0.140	0.001	0.000	**0.000**	0.121	48 (11r, 37n, 0g)
oldOrel09	115	0.001	0.126	0.001	0.000	**0.000**	0.127	31 (7r, 24n, 0g)
oldnon09	540	0.000	0.011	0.001	**0.140**	0.000	0.337	135 (5r, 125n, 5g)
oldHrel09	41	0.000	0.201	0.000	0.000	**0.000**	0.097	17 (4r, 13n, 0g)
ucedlsi	500	0.000	0.005	0.000	0.042	0.000	0.407	65 (2r, 61n, 2g)
xrefL08D	2	0.000	0.000	0.000	0.000	**0.000**	0.112	2 (0r, 2n, 0g)

Table 30: Set-based Scores for Topic 105 using only Highly Relevant documents (21722.0 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
otL09F	1500000	**0.498**	**0.210**	**0.369**	0.870	**0.830**	**1.000**	RRHRRHHRRH
watrrf	1500000	0.432	0.174	0.271	0.791	0.773	**1.000**	HHRRRRRRR-
watlogistic	1500000	0.495	0.162	0.269	0.725	0.782	**1.000**	HHHNHRRRRR
watstack	1500000	0.461	0.201	0.255	0.652	0.789	**1.000**	HHRHRHRR-R
otL09frwF	1500000	0.346	0.147	0.239	**0.912**	0.541	**1.000**	RRRRNHRRN-
uclsi	400000	0.336	0.126	0.225	0.519	0.501	0.292	NNNNNNNNNN
ucscra	400000	0.267	0.094	0.181	0.396	0.511	**1.000**	HNNRRHNH--
ucedlsi	400000	0.301	0.081	0.173	0.475	0.380	0.170	NNNNNNN-NN
otL09rvl	1500000	0.243	0.069	0.148	0.751	0.474	**1.000**	RRNRRRUHRN
EmcRun1	97410	0.301	0.108	0.119	0.127	0.499	**1.000**	RHHHRHRR-N

Table 31: Rank-based Scores for Topic 105 using All Relevant documents (105960.3 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
otL09F	1500000	**0.186**	**0.383**	**0.186**	**1.000**	0.277	0.857	NNHNNHHNNH
watstack	1500000	0.114	0.216	0.177	0.787	**0.294**	**1.000**	HHNHNHNN-N
ucedlsi	400000	0.125	0.163	0.168	0.546	0.111	0.017	NNNNNNN-NN
watlogistic	1500000	0.138	0.220	0.163	0.799	0.289	**1.000**	HHHNHNNNNN
watrrf	1500000	0.134	0.259	0.139	0.787	0.268	**1.000**	HHNNNNNNN-
otL09frwF	1500000	0.102	0.190	0.137	**1.000**	0.152	0.681	NNNNNHNNN-
otL09rvl	1500000	0.105	0.146	0.137	0.585	0.118	0.630	NNNNNNUHNN
uclsi	400000	0.097	0.177	0.112	0.347	0.166	0.125	NNNNNNNNNN
ucscra	400000	0.066	0.113	0.103	0.208	0.176	**1.000**	HNNNNHNH--
EmcRun1	97410	0.055	0.097	0.098	0.097	0.215	0.926	NHHHNHNN-N

Table 32: Rank-based Scores for Topic 105 using only Highly Relevant documents (21722.0 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
watstack	50000	0.127	0.312	**0.181**	0.032	0.004	0.144	404 (205r, 193n, 6g)
xrefL08P	92544	0.128	0.157	0.141	0.010	0.010	0.209	453 (230r, 216n, 7g)
watrrf	100000	0.119	0.130	0.124	0.013	0.012	0.228	476 (224r, 246n, 6g)
otL09frwF	20496	0.069	0.406	0.117	0.020	0.002	0.124	483 (234r, 242n, 7g)
watlogistic	100000	0.091	0.102	0.096	0.044	0.012	0.256	465 (223r, 236n, 6g)
otL09rvl	287453	0.182	0.065	0.096	0.008	0.038	0.297	676 (250r, 416n, 10g)
refL09B	16279	0.053	0.368	0.093	0.053	0.001	0.134	350 (200r, 143n, 7g)
ucedlsi	1500000	0.625	0.041	0.077	0.013	0.213	0.287	1217 (273r, 923n, 21g)
uclsi	1500000	0.568	0.036	0.068	0.015	0.223	0.318	1182 (257r, 902n, 23g)
ucscra	1500000	0.506	0.035	0.066	0.011	0.203	0.333	1083 (236r, 828n, 19g)
otL09F	22019	0.031	0.136	0.050	0.000	0.003	0.232	254 (146r, 107n, 1g)
EmcRun1	16279	0.028	0.147	0.047	0.041	0.002	0.223	226 (111r, 112n, 3g)
fullset09	6910192	**1.000**	0.014	0.028	0.022	1.000	0.892	2500 (291r, 2156n, 53g)
xrefL08D	363	0.002	**0.693**	0.004	**0.098**	**0.000**	**0.075**	39 (24r, 13n, 2g)
oldnon09	472	0.001	0.246	0.001	0.004	**0.000**	0.174	125 (30r, 94n, 1g)
oldrel09	125	0.001	0.625	0.001	0.009	**0.000**	0.086	69 (51r, 17n, 1g)
oldHrel09	62	0.000	0.604	0.001	0.014	**0.000**	0.089	40 (31r, 8n, 1g)
oldOrel09	63	0.000	0.657	0.001	0.000	**0.000**	0.081	29 (20r, 9n, 0g)

Table 33: Set-based Scores for Topic 138 using All Relevant documents (98654.8 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
xrefL08P	92544	0.415	0.067	**0.115**	0.010	0.011	0.111	453 (87r, 359n, 7g)
refL09B	16279	0.119	0.108	0.113	0.053	0.002	0.105	350 (76r, 267n, 7g)
watrrf	10000	0.033	0.072	0.045	0.000	0.001	0.133	257 (66r, 190n, 1g)
watlogistic	10000	0.032	0.073	0.045	0.000	0.001	0.133	259 (76r, 182n, 1g)
otL09frwF	1913	0.023	0.230	0.042	0.002	0.000	0.073	263 (73r, 188n, 2g)
watstack	5000	0.028	0.072	0.041	0.000	0.001	0.133	209 (56r, 153n, 0g)
otL09rvl	85815	0.130	0.022	0.038	0.021	0.011	0.213	519 (87r, 425n, 7g)
EmcRun1	16279	0.018	0.014	0.016	0.047	0.002	0.265	226 (45r, 178n, 3g)
otL09F	1913	0.006	0.054	0.010	0.001	0.000	0.154	74 (23r, 50n, 1g)
oldrel09	125	0.004	0.400	0.007	0.009	**0.000**	0.050	69 (33r, 35n, 1g)
xrefL08D	363	0.003	0.105	0.005	**0.098**	**0.000**	0.112	39 (9r, 28n, 2g)
oldHrel09	62	0.002	**0.445**	0.005	0.014	**0.000**	**0.046**	40 (22r, 17n, 1g)
fullset09	6910192	**1.000**	0.002	0.004	0.022	1.000	0.958	2500 (97r, 2350n, 53g)
oldOrel09	63	0.001	0.331	0.002	0.000	**0.000**	0.058	29 (11r, 18n, 0g)
oldnon09	472	0.000	0.020	0.001	0.004	**0.000**	0.225	125 (4r, 120n, 1g)
ucscra	1000	0.000	0.003	0.000	0.007	0.000	0.404	79 (1r, 77n, 1g)
ucedlsi	1000	0.000	0.001	0.000	0.008	0.000	0.529	109 (1r, 105n, 3g)
uclsi	1000	0.000	0.000	0.000	0.011	0.000	0.661	104 (0r, 100n, 4g)

Table 34: Set-based Scores for Topic 138 using only Highly Relevant documents (12946.0 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
otL09F	1500000	0.164	0.030	**0.161**	**0.649**	0.551	0.926	NHHHHHH-H-
watstack	1500000	0.285	0.044	0.143	0.380	0.514	0.857	NNHHNRHNNN
watrrf	1500000	0.302	0.040	0.124	0.544	0.537	0.857	NNHHNNNHHR
otL09frwF	1500000	**0.419**	**0.047**	0.122	0.586	**0.573**	**1.000**	HHHHHHH-H-
otL09rvl	1500000	0.325	0.035	0.103	0.600	0.571	**1.000**	HHHHRNNHHH
EmcRun1	370031	0.147	0.028	0.101	0.251	0.322	0.926	NHNNNNNRN-
watlogistic	1500000	0.366	0.035	0.098	0.387	0.555	**1.000**	HNHNNHRH--
ucedlsi	1500000	0.008	0.001	0.077	0.625	0.209	0.001	NNNNNNNNNN
ucscra	1500000	0.060	0.008	0.050	0.506	0.181	0.009	NNNNNNNN-N
uclsi	1500000	0.000	0.000	0.033	0.568	0.158	0.000	NNNNUN-NN-

Table 35: Rank-based Scores for Topic 138 using All Relevant documents (98654.8 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R_h	R@ret	indAP	GS10J	First 10 Ret
otL09frwF	1500000	**0.070**	**0.060**	**0.068**	0.342	0.344	**1.000**	HHHHHHH-H-
watlogistic	1500000	0.051	0.037	0.041	0.170	**0.365**	**1.000**	HNHNNHNH--
watstack	1500000	0.032	0.038	0.038	0.426	0.290	0.857	NNHHNNHNNN
otL09rvl	1500000	0.051	0.042	0.037	0.342	0.357	**1.000**	HHHHNNNHHH
watrrf	1500000	0.036	0.036	0.037	0.461	0.312	0.857	NNHHNNNHHN
otL09F	1500000	0.034	0.043	0.015	0.706	0.318	0.926	NHHHHHH-H-
EmcRun1	370031	0.014	0.018	0.014	0.387	0.128	0.926	NHNNNNNNN-
ucscra	1500000	0.002	0.002	0.001	0.338	0.082	0.003	NNNNNNNN-N
ucedlsi	1500000	0.001	0.001	0.001	**0.710**	0.098	0.000	NNNNNNNNNN
uclsi	1500000	0.000	0.000	0.000	0.641	0.064	0.000	NNNNUN-NN-

Table 36: Rank-based Scores for Topic 138 using only Highly Relevant documents (12946.0 Est. Highly Relevant Documents)

Run	K	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
uclsi	700000	0.532	0.364	**0.432**	0.000	0.066	0.200	977 (592r, 383n, 2g)
ucedlsi	700000	0.515	0.339	0.409	0.000	0.071	0.212	1056 (602r, 452n, 2g)
ucscra	700000	0.419	0.299	0.349	0.000	0.070	0.244	887 (518r, 367n, 2g)
otL09rvl	533213	0.347	0.291	0.316	0.000	0.060	0.258	973 (562r, 409n, 2g)
watstack	200000	0.224	0.516	0.313	0.000	0.015	0.187	663 (494r, 167n, 2g)
watlogistic	1000000	0.504	0.209	0.295	**0.004**	0.136	0.283	1028 (577r, 448n, 3g)
otL09F	209822	0.183	0.406	0.252	0.000	0.019	0.228	766 (511r, 253n, 2g)
otL09frwF	115777	0.150	0.554	0.236	0.000	0.009	0.181	797 (527r, 268n, 2g)
watrrf	100000	0.105	0.581	0.177	0.000	0.005	0.177	530 (416r, 113n, 1g)
xrefL08P	59701	0.075	0.634	0.135	0.000	0.003	0.164	534 (402r, 131n, 1g)
fullset09	6910192	**1.000**	0.067	0.125	0.004	1.000	0.789	2500 (677r, 1816n, 7g)
EmcRun1	40315	0.053	0.509	0.096	0.001	0.004	0.204	471 (340r, 129n, 2g)
refL09B	40315	0.046	0.550	0.084	0.000	0.003	0.191	460 (345r, 114n, 1g)
xrefL08D	5636	0.005	0.583	0.010	0.000	0.000	0.184	151 (122r, 28n, 1g)
oldrel09	200	0.000	0.887	0.001	0.000	**0.000**	0.088	104 (93r, 11n, 0g)
oldHrel09	148	0.000	0.878	0.001	0.000	**0.000**	0.092	85 (76r, 9n, 0g)
oldnon09	297	0.000	0.294	0.001	0.003	**0.000**	0.292	93 (35r, 57n, 1g)
oldOrel09	52	0.000	**0.927**	0.000	0.000	**0.000**	**0.077**	19 (17r, 2n, 0g)

Table 37: Set-based Scores for Topic 145 using All Relevant documents (461322.3 Est. Relevant Documents)

Run	K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Num. Judged
otL09F	51316	0.194	0.480	**0.277**	0.001	0.004	0.120	522 (299r, 221n, 2g)
watlogistic	100000	0.246	0.310	0.275	0.000	0.012	0.159	586 (352r, 233n, 1g)
otL09frwF	51316	0.132	0.365	0.194	0.001	0.005	0.152	680 (340r, 338n, 2g)
xrefL08P	59701	0.132	0.344	0.191	0.000	0.005	0.158	534 (287r, 246n, 1g)
otL09rvl	197963	0.210	0.150	0.175	0.000	0.025	0.237	797 (347r, 448n, 2g)
watstack	20000	0.095	0.710	0.167	0.000	0.001	0.081	351 (249r, 102n, 0g)
EmcRun1	40315	0.098	0.290	0.146	0.001	0.005	0.178	471 (241r, 228n, 2g)
refL09B	40315	0.071	0.264	0.112	0.000	0.004	0.190	460 (251r, 208n, 1g)
watrrf	10000	0.033	0.576	0.062	0.000	0.001	0.109	264 (191r, 73n, 0g)
fullset09	6910192	**1.000**	0.021	0.040	**0.004**	1.000	0.873	2500 (419r, 2074n, 7g)
xrefL08D	5636	0.006	0.220	0.012	0.000	0.001	0.214	151 (95r, 55n, 1g)
ucscra	1000	0.003	0.540	0.007	0.000	0.000	0.118	85 (38r, 47n, 0g)
ucedlsi	1000	0.003	0.451	0.007	0.000	0.000	0.138	125 (66r, 59n, 0g)
uclsi	1000	0.002	0.232	0.004	0.000	0.000	0.209	72 (15r, 57n, 0g)
oldrel09	200	0.001	0.727	0.002	0.000	**0.000**	0.082	104 (78r, 26n, 0g)
oldHrel09	148	0.001	**0.765**	0.001	0.000	**0.000**	**0.075**	85 (66r, 19n, 0g)
oldnon09	297	0.000	0.079	0.000	0.003	**0.000**	0.329	93 (8r, 84n, 1g)
oldOrel09	52	0.000	0.550	0.000	0.000	**0.000**	0.116	19 (12r, 7n, 0g)

Table 38: Set-based Scores for Topic 145 using only Highly Relevant documents (143094.7 Est. Highly Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R	R@ret	indAP	GS10J	First 10 Ret
watstack	1500000	**0.869**	0.057	**0.417**	0.677	0.761	**1.000**	HHHHHRHHRH
ucedlsi	700000	0.410	0.037	0.415	0.515	0.586	0.857	NNHHNRNNNN
uclsi	700000	0.246	0.022	0.415	0.532	0.560	0.926	NRHNHNRNNN
watrrf	1500000	0.718	0.053	0.399	**0.749**	**0.767**	**1.000**	HRHHHHHHHH
ucscra	700000	0.441	0.037	0.357	0.419	0.523	**1.000**	HHHHHHNHN-
watlogistic	1500000	0.719	**0.075**	0.354	0.573	0.732	**1.000**	HHHNHHHHHH
otL09frwF	1500000	0.651	0.057	0.335	0.654	0.721	**1.000**	HHNHHHH-HH
EmcRun1	531963	0.509	0.053	0.328	0.337	0.562	**1.000**	HRHHHNNNR-
otL09F	1500000	0.715	0.061	0.324	0.558	0.705	0.926	NHHHHHR-HR
otL09rvl	1500000	0.500	0.043	0.309	0.579	0.657	**1.000**	HHHNHHRHHH

Table 39: Rank-based Scores for Topic 145 using All Relevant documents (461322.3 Est. Relevant Documents)

Run	Retrieved	P@B	R@B	F_1@R$_h$	R@ret	indAP	GS10J	First 10 Ret
watstack	1500000	**0.602**	0.126	**0.350**	0.865	**0.693**	**1.000**	HHHHHNHHNH
watrrf	1500000	0.525	0.124	0.306	**0.899**	0.684	**1.000**	HNHHHHHHHH
watlogistic	1500000	0.495	**0.167**	0.284	0.702	0.671	**1.000**	HHHNHHHHHH
otL09F	1500000	0.420	0.116	0.280	0.756	0.605	0.926	NHHHHHN-HN
otL09frwF	1500000	0.414	0.116	0.273	0.805	0.584	**1.000**	HHNHHHH-HH
ucscra	700000	0.215	0.058	0.208	0.513	0.420	**1.000**	HHHHHHNHN-
EmcRun1	531963	0.290	0.098	0.206	0.371	0.428	**1.000**	HNHHHNNNN-
otL09rvl	1500000	0.420	0.116	0.196	0.674	0.504	**1.000**	HHHNHHNHHH
ucedlsi	700000	0.227	0.065	0.183	0.622	0.466	0.857	NNHHNNNNNN
uclsi	700000	0.141	0.041	0.153	0.697	0.437	0.857	NNHNHNNNNN

Table 40: Rank-based Scores for Topic 145 using only Highly Relevant documents (143094.7 Est. Highly Relevant Documents)

Run	Avg. K	Recall	Precision	F_1	Gray	Fallout	LAM	Avg. Num. Judged
watstack	241550	0.192	0.402	**0.214**	0.014	0.022	0.169	484 (333r, 150n, 1g)
watlogistic	318520	0.198	0.406	0.207	0.009	0.033	0.192	514 (333r, 179n, 2g)
otL09F	198939	0.167	0.398	0.196	0.005	0.019	0.179	472 (329r, 142n, 1g)
otL09frwF	270389	0.182	0.377	0.189	0.025	0.028	0.176	610 (359r, 248n, 3g)
watrrf	233550	0.162	0.378	0.177	**0.027**	0.022	0.183	463 (320r, 141n, 2g)
uclsi	960000	0.354	0.131	0.162	0.007	0.129	0.369	876 (346r, 524n, 6g)
otL09rvl	192605	0.165	0.267	0.162	0.006	0.021	0.256	632 (344r, 284n, 5g)
ucedlsi	960000	0.374	0.133	0.162	0.007	0.127	0.347	916 (358r, 552n, 7g)
ucscra	960000	0.309	0.117	0.144	0.008	0.128	0.378	809 (319r, 484n, 6g)
fullset09	6910192	**1.000**	0.046	0.084	0.010	1.000	0.843	2275 (446r, 1806n, 23g)
EmcRun1	27462	0.041	0.353	0.068	0.015	0.002	0.211	269 (179r, 88n, 2g)
refL09B	27462	0.037	0.391	0.063	0.016	0.002	0.196	277 (182r, 92n, 3g)
oldrel09	643	0.002	**0.781**	0.004	0.001	**0.000**	**0.095**	74 (65r, 9n, 0g)
oldnon09	1398	0.001	0.133	0.002	0.016	0.000	0.412	102 (28r, 73n, 2g)

Table 41: Mean Set-based Scores using All Relevant documents (Avg. 314526.8 Est. Relevant Documents)

Run	Avg. K_h	Recall	Precision	F_1	Gray	Fallout	LAM	Avg. Num. Judged
watlogistic	31852	0.178	0.326	**0.190**	0.000	0.004	0.125	273 (127r, 146n, 0g)
watstack	24155	0.158	0.371	0.180	0.000	0.003	**0.098**	241 (114r, 127n, 0g)
watrrf	23355	0.146	0.353	0.163	0.000	0.002	0.117	235 (108r, 127n, 0g)
otL09F	26582	0.167	0.266	0.132	0.000	0.003	0.108	260 (115r, 145n, 0g)
otL09frwF	26582	0.168	0.215	0.113	0.016	0.003	0.125	384 (134r, 248n, 1g)
otL09rvl	61608	0.239	0.119	0.105	0.007	0.008	0.165	465 (141r, 321n, 3g)
oldrel09	643	0.065	**0.401**	0.079	0.001	**0.000**	0.145	74 (44r, 30n, 0g)
EmcRun1	27462	0.128	0.109	0.071	0.016	0.004	0.171	269 (84r, 183n, 2g)
refL09B	27462	0.143	0.149	0.063	0.016	0.004	0.169	277 (84r, 190n, 3g)
fullset09	6910192	**1.000**	0.008	0.016	0.010	1.000	0.934	2275 (175r, 2077n, 23g)
oldnon09	1398	0.017	0.028	0.006	**0.016**	0.000	0.356	102 (6r, 95n, 2g)
ucscra	580	0.002	0.120	0.004	0.003	**0.000**	0.239	65 (15r, 49n, 1g)
ucedlsi	580	0.001	0.083	0.002	0.014	**0.000**	0.291	67 (12r, 54n, 1g)
uclsi	580	0.001	0.046	0.001	0.006	**0.000**	0.351	53 (4r, 48n, 1g)

Table 42: Mean Set-based Scores using only Highly Relevant documents (Avg. 55146.8 Est. Highly Relevant Documents)

Run	Avg. Ret	P@B	R@B	F_1@R	R@ret	indAP	GS10J	S1J	Fields
watstack	15000000	**0.581**	**0.058**	**0.259**	0.508	0.671	0.986	**9/10**	F
otL09F	15000000	0.558	0.055	0.251	0.582	0.653	0.957	6/10	mMF
watrrf	15000000	0.563	0.051	0.250	0.571	**0.674**	0.986	**9/10**	F
otL09frwF	15000000	0.531	0.054	0.238	**0.609**	0.618	0.978	8/10	brmBMF
watlogistic	15000000	0.576	0.058	0.233	0.470	0.664	**0.993**	**9/10**	F
otL09rvl	15000000	0.476	0.041	0.194	0.535	0.591	0.909	**9/10**	rmM
ucedlsi	9600000	0.194	0.023	0.149	0.374	0.337	0.432	0/10	rMF
uclsi	9600000	0.141	0.023	0.145	0.354	0.304	0.414	0/10	rMF
ucscra	9600000	0.236	0.029	0.144	0.309	0.336	0.673	4/10	rMF
EmcRun1	2127948	0.353	0.041	0.114	0.132	0.342	0.873	7/10	bCrmM

Table 43: Mean Rank-based Scores using All Relevant documents (Avg. 314526.8 Est. Relevant Documents)

Run	Avg. Ret	P@B	R@B	F_1@R_h	R@ret	indAP	GS10J	S1J	Fields
watstack	15000000	**0.285**	**0.251**	**0.248**	0.780	0.441	0.868	**6/10**	F
watrrf	15000000	0.272	0.237	0.246	**0.782**	0.439	0.846	**6/10**	F
watlogistic	15000000	0.262	0.225	0.240	0.693	**0.454**	**0.882**	**6/10**	F
otL09F	15000000	0.256	0.228	0.213	0.757	0.409	0.815	2/10	mMF
otL09frwF	15000000	0.221	0.230	0.193	0.719	0.366	0.868	5/10	brmBMF
otL09rvl	15000000	0.239	0.174	0.164	0.688	0.338	0.779	5/10	rmM
EmcRun1	2127948	0.109	0.128	0.098	0.293	0.197	0.791	4/10	bCrmM
ucscra	9600000	0.054	0.055	0.061	0.506	0.171	0.477	2/10	rMF
ucedlsi	9600000	0.077	0.056	0.060	0.575	0.174	0.253	0/10	rMF
uclsi	9600000	0.044	0.043	0.043	0.554	0.149	0.183	0/10	rMF

Table 44: Mean Rank-based Scores using only Highly Relevant documents (Avg. 55146.8 Est. Highly Relevant Documents)