**Vocabulary elimination W(q,t) threshold value analysis**

Below are the result for mean average precision, throughput and mean response time for all 225 queries with vocabulary elimination with default ranking strategy based on different w(q,t) threshold values.

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| --- | --- | --- | --- |
| W(q,t) threshold | MAP | Throughput | MRT in milisec |
| 0.001 | 0.380533819 | 0.238974513 | 4184.546667 |
| 0.01 | 0.380533819 | 0.240064785 | 4165.542222 |
| 0.1 | 0.380533819 | 0.223602929 | 4472.213333 |
| 1 | 0.391457213 | 0.243569495 | 4105.604444 |
| 1.1 | 0.392898485 | 0.231223377 | 4324.822222 |
| 1.2 | 0.393070604 | 0.23544973 | 4247.191111 |
| 1.3 | 0.391391889 | 0.240603884 | 4156.208889 |
| 1.4 | 0.390935371 | 0.24965409 | 4005.542222 |
| 1.5 | 0.380428071 | 0.23836185 | 4195.302222 |
| 1.7 | 0.379533464 | 0.240254478 | 4162.253333 |
| 2 | 0.366631987 | 0.236876016 | 4221.617778 |
| 2.5 | 0.31674182 | 0.24178937 | 4135.831111 |
| 5 | 0.079519571 | 0.240659986 | 4155.24 |
| 7.5 | 0 | 0.237860901 | 4204.137778 |

Below are the result for average precision, throughput and mean response time for single query “what similarity laws must be obeyed when con-structing aeroelastic models of heated high speed aircraft .” executed for 3o times with vocabulary elimination with default ranking strategy based on different w(q,t) threshold values.

|  |  |  |  |
| --- | --- | --- | --- |
| W(q,t) threshold | AP | MRT in milisec | Throughput |
| 0.001 | 0.270375795 | 3748.733333 | 8.002703135 |
| 0.01 | 0.270375795 | 3752.933333 | 7.993747113 |
| 0.1 | 0.270375795 | 3772.2 | 7.952918721 |
| 1 | 0.263635046 | 3744.333333 | 8.012107184 |
| 1.1 | 0.282596832 | 3751.3 | 7.997227628 |
| 1.2 | 0.282596832 | 3740.466667 | 8.020389613 |
| 1.3 | 0.282596832 | 3750.166667 | 7.99964446 |
| 1.4 | 0.282596832 | 3740.9 | 8.019460558 |
| 1.5 | 0.282596832 | 3742.1 | 8.016888913 |
| 1.7 | 0.282596832 | 3727.333333 | 8.048649615 |
| 2 | 0.23332084 | 3730.566667 | 8.04167374 |
| 2.5 | 0.153416263 | 3747.3 | 8.00576415 |
| 5 | 0 | 3737.1 | 8.027614996 |
| 7.5 | 0 | 3730.266667 | 8.042320478 |

For 225 query execution mean response time and throughput W(q,t) threshold value 1.4 gives optimal result but for mean average precision W(q,t) threshold value 1.2 gives optimal result. Generally, we expect fast results from web search instead of exact results.

Hence we considered 1.4 for W(q,t) threshold value for the given search engine.