|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Embedding Method | R@10 | R@20 | R@50 | R@100 |
| document2vec-TF | 0.078 | 0.111 | 0.169 | 0.232 |
| document2vec-TFIDF | **0.160** | **0.233** | **0.335** | **0.423** |
| document2vec-Word2vec | 0.097 | 0.144 | 0.221 | 0.299 |
| document2vec-Para2vec | 0.129 | 0.196 | 0.303 | 0.405 |
| Context2Document-TF | 0.119 | 0.179 | 0.263 | 0.333 |
| Context2Document-TFIDF | 0.119 | 0.180 | 0.304 | 0.401 |
| Context2Document-Word2vec | 0.107 | 0.156 | 0.234 | 0.299 |
| Context2Document-Para2vec | **0.159** | **0.223** | **0.322** | **0.423** |
| CitationNetwork-1st | **0.100** | **0.169** | **0.303** | **0.419** |
| CitationNetwork-2nd | 0.074 | 0.118 | 0.204 | 0.283 |
| CitationNetworkBi-2nd | 0.074 | 0.110 | 0.205 | 0.285 |
| CoCitedNetwork | 0.088 | 0.149 | 0.251 | 0.332 |
| CoCitingNetwork | 0.035 | 0.059 | 0.114 | 0.181 |
| CN+CCitedN | 0.094 | 0.164 | 0.291 | 0.399 |
| CN+CCitingN | 0.034 | 0.069 | 0.134 | 0.211 |
| ContextSim-Para2vec | 0.075 | 0.132 | 0.217 | 0.299 |
| ContextSim-TFIDF | **0.098** | **0.150** | **0.232** | **0.310** |
| ContextSim-Word2vec | 0.071 | 0.125 | 0.207 | 0.279 |
| OwnerText-ContextSim | 0.018 | 0.026 | 0.040 | 0.064 |
| TargetText-ContextSim | 0.011 | 0.020 | 0.034 | 0.043 |
| Goods-Based-Balance | 0.079 | 0.138 | 0.230 | 0.304 |
| Goods-Based-Quality | 0.065 | 0.109 | 0.197 | 0.279 |
| Goods-Based-Quantity | **0.087** | **0.145** | **0.241** | **0.341** |
| Customer-Based-Balance | 0.044 | 0.074 | 0.130 | 0.194 |
| Customer-Based-Quality | 0.038 | 0.062 | 0.109 | 0.167 |
| Customer-Based-Quantity | 0.039 | 0.064 | 0.118 | 0.177 |
| CNITBE(rho = 0.01) | 0.162 | 0.256 | 0.395 | 0.507 |
| CNITBE(rho = 0.02) | **0.171** | **0.278** | 0.414 | 0.527 |
| CNITBE(rho = 0.1) | 0.166 | 0.270 | **0.417** | **0.533** |
| CNITBE(rho = 0.25) | 0.131 | 0.218 | 0.380 | 0.496 |