

Appendix A

| No. | Text Document | PROPOSED MODEL | | | LSA | | | MS Word | | | |
|-----|--------------------------------------|----------------|------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | ROUGE-TYPE | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score |
| 1 | accuracy_garmin_nuvic_255W_gps.txt | ROUGE-L | 0.29032 | 0.23684 | 0.26087 | 0.29032 | 0.10465 | 0.15385 | 0.05814 | 0.38462 | 0.10101 |
| | | ROUGE-1 | 0.41667 | 0.40816 | 0.41237 | 0.27083 | 0.13131 | 0.17687 | 0.12121 | 0.63158 | 0.20339 |
| | | ROUGE-2 | 0.2973 | 0.25581 | 0.275 | 0.08108 | 0.03226 | 0.04615 | 0.02151 | 0.15385 | 0.03774 |
| | | ROUGE-SU4 | 0.375 | 0.31915 | 0.34483 | 0.10625 | 0.03908 | 0.05714 | 0.03678 | 0.32 | 0.06598 |
| 2 | bathroom_bestwestern_hotel_sfo.txt | ROUGE-L | 0.14815 | 0.2 | 0.17021 | 0.37037 | 0.1 | 0.15748 | 0.09 | 0.5625 | 0.15517 |
| | | ROUGE-1 | 0.33333 | 0.39474 | 0.36145 | 0.42222 | 0.15447 | 0.22619 | 0.12195 | 0.65217 | 0.20548 |
| | | ROUGE-2 | 0 | 0 | 0 | 0.09375 | 0.02586 | 0.04054 | 0.00862 | 0.0625 | 0.01515 |
| | | ROUGE-SU4 | 0.12121 | 0.16327 | 0.13913 | 0.19697 | 0.04771 | 0.07681 | 0.03486 | 0.35849 | 0.06355 |
| 3 | battery-life_amazon_kindle.txt | ROUGE-L | 0.42 | 0.31343 | 0.35897 | 0.11364 | 0.04386 | 0.06329 | 0.12 | 0.2069 | 0.1519 |
| | | ROUGE-1 | 0.61842 | 0.48958 | 0.54651 | 0.12857 | 0.06618 | 0.08738 | 0.19737 | 0.38462 | 0.26087 |
| | | ROUGE-2 | 0.44262 | 0.3375 | 0.38298 | 0 | 0 | 0 | 0.06557 | 0.13333 | 0.08791 |
| | | ROUGE-SU4 | 0.51282 | 0.3794 | 0.43614 | 0.04132 | 0.01667 | 0.02375 | 0.07692 | 0.18421 | 0.10853 |
| 4 | battery-life_netbook_1005haha.txt | ROUGE-L | 0.12963 | 0.13462 | 0.13208 | 0.2716 | 0.12828 | 0.17426 | 0.1677 | 0.39706 | 0.23581 |
| | | ROUGE-1 | 0.30618 | 0.35048 | 0.32684 | 0.36798 | 0.25437 | 0.3008 | 0.29664 | 0.68794 | 0.41453 |
| | | ROUGE-2 | 0.0303 | 0.03644 | 0.03309 | 0.10438 | 0.06392 | 0.07928 | 0.18519 | 0.48673 | 0.26829 |
| | | ROUGE-SU4 | 0.11201 | 0.13922 | 0.12414 | 0.15373 | 0.09231 | 0.11535 | 0.18025 | 0.55787 | 0.27247 |
| 5 | buttons_amazon_kindle.txt | ROUGE-L | 0.23077 | 0.23596 | 0.23333 | 0.48352 | 0.25882 | 0.33716 | 0.24444 | 0.51163 | 0.33083 |
| | | ROUGE-1 | 0.31333 | 0.32639 | 0.31973 | 0.5 | 0.33784 | 0.40323 | 0.28676 | 0.58209 | 0.38424 |
| | | ROUGE-2 | 0.07438 | 0.07895 | 0.0766 | 0.29752 | 0.17391 | 0.21951 | 0.18182 | 0.42308 | 0.25434 |
| | | ROUGE-SU4 | 0.13761 | 0.14648 | 0.14191 | 0.3633 | 0.20625 | 0.26312 | 0.17514 | 0.49468 | 0.25869 |
| 6 | comfort_honda_acord_2008.txt | ROUGE-L | 0.24675 | 0.26389 | 0.25503 | 0.32468 | 0.13228 | 0.18797 | 0.07937 | 0.41667 | 0.13333 |
| | | ROUGE-1 | 0.38168 | 0.41322 | 0.39683 | 0.39695 | 0.19772 | 0.26396 | 0.09506 | 0.37879 | 0.15198 |
| | | ROUGE-2 | 0.08 | 0.08989 | 0.08466 | 0.06 | 0.02429 | 0.03458 | 0.0081 | 0.04167 | 0.01356 |
| | | ROUGE-SU4 | 0.15982 | 0.18373 | 0.17094 | 0.16667 | 0.0632 | 0.09165 | 0.0303 | 0.20231 | 0.05271 |
| 7 | comfort_toyota_camry_2007.txt | ROUGE-L | 0.5 | 0.29167 | 0.36842 | 0.35714 | 0.13889 | 0.2 | 0.0463 | 0.33333 | 0.0813 |
| | | ROUGE-1 | 0.61644 | 0.38793 | 0.47619 | 0.39726 | 0.22137 | 0.28431 | 0.10687 | 0.45161 | 0.17284 |
| | | ROUGE-2 | 0.38462 | 0.21277 | 0.27397 | 0.25 | 0.10833 | 0.15116 | 0.025 | 0.14286 | 0.04255 |
| | | ROUGE-SU4 | 0.48402 | 0.25059 | 0.33022 | 0.33333 | 0.13394 | 0.1911 | 0.03303 | 0.27692 | 0.05902 |
| 8 | directions_garmin_nuvic_255W_gps.txt | ROUGE-L | 0.09195 | 0.16667 | 0.11852 | 0.34483 | 0.22222 | 0.27027 | 0.02222 | 0.11111 | 0.03704 |
| | | ROUGE-1 | 0.20175 | 0.2987 | 0.24084 | 0.35965 | 0.26452 | 0.30483 | 0.11613 | 0.40909 | 0.1809 |
| | | ROUGE-2 | 0.01031 | 0.01695 | 0.01282 | 0.20619 | 0.13699 | 0.16461 | 0.02055 | 0.08571 | 0.03315 |
| | | ROUGE-SU4 | 0.05345 | 0.09231 | 0.0677 | 0.2539 | 0.16642 | 0.20106 | 0.03504 | 0.1791 | 0.05861 |
| 9 | display_garmin_nuvic_255W_gps.txt | ROUGE-L | 0.07143 | 0.06667 | 0.06897 | 0.25 | 0.10448 | 0.14737 | 0.04478 | 0.1875 | 0.07229 |
| | | ROUGE-1 | 0.16216 | 0.15789 | 0.16 | 0.37838 | 0.17949 | 0.24348 | 0.0641 | 0.26316 | 0.10309 |
| | | ROUGE-2 | 0 | 0 | 0 | 0.06667 | 0.02703 | 0.03846 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.04511 | 0.04478 | 0.04494 | 0.14286 | 0.05429 | 0.07867 | 0.01429 | 0.08772 | 0.02457 |

| No. | Text Document | ROUGE-TYPE | PROPOSED MODEL | | | LSA | | | MS Word | | |
|-----|------------------------------------|------------|----------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score |
| 10 | eyesight-issues_amazon_kindle.txt | ROUGE-L | 0.19048 | 0.19672 | 0.19355 | 0.25397 | 0.20513 | 0.22695 | 0.10256 | 0.5 | 0.17021 |
| | | ROUGE-1 | 0.2963 | 0.27907 | 0.28743 | 0.25926 | 0.23077 | 0.24419 | 0.14286 | 0.54167 | 0.22609 |
| | | ROUGE-2 | 0.02941 | 0.02817 | 0.02878 | 0.02941 | 0.02381 | 0.02632 | 0.02381 | 0.11765 | 0.0396 |
| | | ROUGE-SU4 | 0.09615 | 0.09288 | 0.09449 | 0.08013 | 0.06494 | 0.07174 | 0.03896 | 0.27273 | 0.06818 |
| 11 | features_windows7.txt | ROUGE-L | 0.3 | 0.23077 | 0.26087 | 0.2 | 0.08219 | 0.1165 | 0.24138 | 0.53846 | 0.33333 |
| | | ROUGE-1 | 0.42105 | 0.30189 | 0.35165 | 0.31579 | 0.13793 | 0.192 | 0.32353 | 0.52381 | 0.4 |
| | | ROUGE-2 | 0.2069 | 0.13953 | 0.16667 | 0.06897 | 0.02439 | 0.03604 | 0.2069 | 0.375 | 0.26667 |
| | | ROUGE-SU4 | 0.27419 | 0.17436 | 0.21317 | 0.12903 | 0.04156 | 0.06287 | 0.21667 | 0.46429 | 0.29545 |
| 12 | fonts_amazon_kindle.txt | ROUGE-L | 0.12 | 0.10909 | 0.11429 | 0.24 | 0.15789 | 0.19048 | 0.02041 | 0.07692 | 0.03226 |
| | | ROUGE-1 | 0.28571 | 0.2439 | 0.26316 | 0.32857 | 0.25275 | 0.28571 | 0.01538 | 0.04762 | 0.02326 |
| | | ROUGE-2 | 0.11864 | 0.1 | 0.10853 | 0.10169 | 0.07059 | 0.08333 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.11111 | 0.09202 | 0.10067 | 0.13333 | 0.09114 | 0.10827 | 0.00377 | 0.01786 | 0.00623 |
| 13 | food_holiday_inn_london.txt | ROUGE-L | 0.30137 | 0.31884 | 0.30986 | 0.17241 | 0.1 | 0.12658 | 0.14706 | 0.07246 | 0.09709 |
| | | ROUGE-1 | 0.42991 | 0.37097 | 0.39827 | 0.31579 | 0.19048 | 0.23762 | 0.28571 | 0.1129 | 0.16185 |
| | | ROUGE-2 | 0.20455 | 0.17308 | 0.1875 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.27068 | 0.225 | 0.24573 | 0.09677 | 0.04898 | 0.06504 | 0.11268 | 0.03333 | 0.05145 |
| 14 | gas_mileage_toyota_camry_2007.txt | ROUGE-L | 0.27027 | 0.20408 | 0.23256 | 0.45946 | 0.125 | 0.19653 | 0.08088 | 0.45833 | 0.1375 |
| | | ROUGE-1 | 0.51807 | 0.45745 | 0.48588 | 0.49398 | 0.23699 | 0.32031 | 0.15029 | 0.55319 | 0.23636 |
| | | ROUGE-2 | 0.19355 | 0.16667 | 0.1791 | 0.33871 | 0.12963 | 0.1875 | 0.04321 | 0.18919 | 0.07035 |
| | | ROUGE-SU4 | 0.30566 | 0.25552 | 0.27835 | 0.38113 | 0.13377 | 0.19804 | 0.06093 | 0.33824 | 0.10325 |
| 15 | interior_honda_acord_2008.txt | ROUGE-L | 0.16667 | 0.12048 | 0.13986 | 0.26667 | 0.14286 | 0.18605 | 0.04464 | 0.25 | 0.07576 |
| | | ROUGE-1 | 0.29348 | 0.22314 | 0.25352 | 0.30435 | 0.21053 | 0.24889 | 0.13534 | 0.52941 | 0.21557 |
| | | ROUGE-2 | 0.04 | 0.02913 | 0.03371 | 0.05333 | 0.03226 | 0.0402 | 0.02419 | 0.12 | 0.04027 |
| | | ROUGE-SU4 | 0.09735 | 0.06962 | 0.08118 | 0.12094 | 0.0713 | 0.08972 | 0.04 | 0.27059 | 0.0697 |
| 16 | interior_toyota_camry_2007.txt | ROUGE-L | 0.21569 | 0.23913 | 0.2268 | 0.23529 | 0.09677 | 0.13714 | 0.07258 | 0.47368 | 0.12587 |
| | | ROUGE-1 | 0.42353 | 0.40909 | 0.41618 | 0.28235 | 0.15094 | 0.19672 | 0.11321 | 0.54545 | 0.1875 |
| | | ROUGE-2 | 0.12121 | 0.11765 | 0.1194 | 0.01515 | 0.00671 | 0.0093 | 0.01342 | 0.08696 | 0.02326 |
| | | ROUGE-SU4 | 0.21993 | 0.21192 | 0.21585 | 0.10653 | 0.0446 | 0.06288 | 0.03309 | 0.31944 | 0.05997 |
| 17 | keyboard_netbook_1005ha.txt | ROUGE-L | 0.2973 | 0.28571 | 0.29139 | 0.35135 | 0.2 | 0.2549 | 0.06923 | 0.28125 | 0.11111 |
| | | ROUGE-1 | 0.44444 | 0.40945 | 0.42623 | 0.39316 | 0.27711 | 0.32509 | 0.12048 | 0.45455 | 0.19048 |
| | | ROUGE-2 | 0.07447 | 0.06796 | 0.07107 | 0.14894 | 0.09091 | 0.1129 | 0.00649 | 0.02941 | 0.01064 |
| | | ROUGE-SU4 | 0.16588 | 0.14989 | 0.15748 | 0.20853 | 0.12394 | 0.15548 | 0.03803 | 0.21774 | 0.06475 |
| 18 | location_bestwestern_hotel_sfo.txt | ROUGE-L | 0.38095 | | 0.25 | 0.44444 | 0.10811 | 0.17391 | 0.0695 | 0.66667 | 0.12587 |
| | | ROUGE-1 | 0.54494 | 0.34397 | 0.42174 | 0.55618 | 0.21064 | 0.30556 | 0.18511 | 0.74359 | 0.29642 |
| | | ROUGE-2 | 0.13386 | 0.07456 | 0.09577 | 0.22047 | 0.06321 | 0.09825 | 0.05869 | 0.28571 | 0.09738 |
| | | ROUGE-SU4 | 0.26079 | 0.13548 | 0.17832 | 0.33959 | 0.08702 | 0.13854 | 0.07404 | 0.46951 | 0.12791 |

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|-----|------------------------------------|------------|----------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score |
| 19 | location_holiday_in_n_london.txt | ROUGE-L | 0.49206 | 0.17614 | 0.25941 | 0.53968 | 0.12546 | 0.20359 | 0.09963 | 0.52941 | 0.1677 |
| | | ROUGE-1 | 0.67857 | 0.39481 | 0.49918 | 0.52679 | 0.20522 | 0.29537 | 0.18783 | 0.63529 | 0.28993 |
| | | ROUGE-2 | 0.34437 | 0.16774 | 0.2256 | 0.23841 | 0.06679 | 0.10435 | 0.05009 | 0.20611 | 0.0806 |
| | | ROUGE-SU4 | 0.44828 | 0.19542 | 0.27218 | 0.3399 | 0.08231 | 0.13252 | 0.06998 | 0.37931 | 0.11816 |
| 20 | mileage_honda_acc ord_2008.txt | ROUGE-L | 0.16438 | 0.25 | 0.19835 | 0.38356 | 0.15135 | 0.21705 | 0.04324 | 0.26667 | 0.07442 |
| | | ROUGE-1 | 0.44853 | 0.43885 | 0.44364 | 0.53676 | 0.27341 | 0.36228 | 0.14981 | 0.67797 | 0.2454 |
| | | ROUGE-2 | 0.17757 | 0.17593 | 0.17674 | 0.24299 | 0.10317 | 0.14485 | 0.05159 | 0.28261 | 0.08725 |
| | | ROUGE-SU4 | 0.23629 | 0.23285 | 0.23455 | 0.30802 | 0.12321 | 0.17601 | 0.05485 | 0.38462 | 0.09601 |
| 21 | navigation_amazon_kindle.txt | ROUGE-L | 0.38889 | 0.29787 | 0.33735 | 0.22222 | 0.10526 | 0.14286 | 0.07895 | 0.4 | 0.13187 |
| | | ROUGE-1 | 0.39583 | 0.29688 | 0.33929 | 0.27083 | 0.15116 | 0.19403 | 0.11628 | 0.43478 | 0.18349 |
| | | ROUGE-2 | 0.21622 | 0.15385 | 0.17978 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.26875 | 0.1822 | 0.21717 | 0.09375 | 0.04054 | 0.0566 | 0.03243 | 0.2069 | 0.05607 |
| 22 | performance_honda_ac cord_2008.txt | ROUGE-L | 0.2381 | 0.15152 | 0.18519 | 0.28571 | 0.11538 | 0.16438 | 0.03846 | 0.22222 | 0.06557 |
| | | ROUGE-1 | 0.36364 | 0.26087 | 0.3038 | 0.36364 | 0.19048 | 0.25 | 0.07937 | 0.41667 | 0.13333 |
| | | ROUGE-2 | 0.03846 | 0.02632 | 0.03125 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.11504 | 0.07429 | 0.09028 | 0.15929 | 0.06545 | 0.09278 | 0.02182 | 0.24 | 0.04 |
| 23 | performance_netbook_1005ha.txt | ROUGE-L | 0.1129 | 0.35 | 0.17073 | 0.12903 | 0.13793 | 0.13333 | 0.08621 | 0.33333 | 0.13699 |
| | | ROUGE-1 | 0.17391 | 0.55172 | 0.26446 | 0.1413 | 0.19403 | 0.16352 | 0.1791 | 0.54545 | 0.26966 |
| | | ROUGE-2 | 0.03797 | 0.14286 | 0.06 | 0.01266 | 0.01587 | 0.01408 | 0.03175 | 0.11111 | 0.04938 |
| | | ROUGE-SU4 | 0.06011 | 0.24444 | 0.09649 | 0.04372 | 0.05424 | 0.04841 | 0.06102 | 0.25 | 0.09809 |
| 24 | price_amazon_kindle.txt | ROUGE-L | 0.14493 | 0.13514 | 0.13986 | 0.18841 | 0.1383 | 0.15951 | 0.11702 | 0.32353 | 0.17188 |
| | | ROUGE-1 | 0.3299 | 0.2963 | 0.3122 | 0.23711 | 0.20536 | 0.2201 | 0.17857 | 0.39216 | 0.2454 |
| | | ROUGE-2 | 0.0375 | 0.03409 | 0.03571 | 0.0375 | 0.02913 | 0.03279 | 0.03883 | 0.09524 | 0.05517 |
| | | ROUGE-SU4 | 0.1157 | 0.105 | 0.11009 | 0.08264 | 0.06383 | 0.07203 | 0.05957 | 0.16766 | 0.08791 |
| 25 | price_holiday_inn_london.txt | ROUGE-L | 0.37288 | 0.32836 | 0.34921 | 0.40678 | 0.1875 | 0.25668 | 0.10156 | 0.5 | 0.16883 |
| | | ROUGE-1 | 0.52336 | 0.41176 | 0.46091 | 0.4486 | 0.27119 | 0.33803 | 0.19209 | 0.57627 | 0.28814 |
| | | ROUGE-2 | 0.20732 | 0.15455 | 0.17708 | 0.17073 | 0.08537 | 0.11382 | 0.03659 | 0.13043 | 0.05714 |
| | | ROUGE-SU4 | 0.32213 | 0.23092 | 0.26901 | 0.26891 | 0.12715 | 0.17266 | 0.06755 | 0.30723 | 0.11075 |
| 26 | quality_toyota_camar y_2007.txt | ROUGE-L | 0.33333 | 0.63636 | 0.4375 | 0.28571 | 0.07143 | 0.11429 | 0.09524 | 0.57143 | 0.16327 |
| | | ROUGE-1 | 0.4359 | 0.62963 | 0.51515 | 0.35897 | 0.13333 | 0.19444 | 0.13333 | 0.63636 | 0.22047 |
| | | ROUGE-2 | 0.17857 | 0.33333 | 0.23256 | 0.10714 | 0.0303 | 0.04724 | 0.0404 | 0.25 | 0.06957 |
| | | ROUGE-SU4 | 0.22609 | 0.47273 | 0.30588 | 0.17391 | 0.04301 | 0.06897 | 0.04301 | 0.38462 | 0.07737 |
| 27 | room_holiday_inn_london.txt | ROUGE-L | 0.38532 | 0.38532 | 0.38532 | 0.61927 | 0.2188 | 0.32335 | 0.06969 | 0.47778 | 0.12164 |
| | | ROUGE-1 | 0.56164 | 0.45138 | 0.50051 | 0.61416 | 0.2666 | 0.3718 | 0.14172 | 0.64126 | 0.23214 |
| | | ROUGE-2 | 0.21194 | 0.16359 | 0.18466 | 0.25075 | 0.08678 | 0.12893 | 0.03099 | 0.17241 | 0.05254 |
| | | ROUGE-SU4 | 0.31293 | 0.23797 | 0.27035 | 0.37551 | 0.11909 | 0.18084 | 0.0466 | 0.33803 | 0.08191 |

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|-----|--|----------------|------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | ROUGE-TYPE | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score |
| 28 | rooms_bestwestern _hotel_sfo.txt | ROUGE-L | 0.18182 | 0.11034 | 0.13734 | 0.36364 | 0.10847 | 0.1671 | 0.06441 | 0.55882 | 0.1155 |
| | | ROUGE-1 | 0.36923 | 0.28916 | 0.32432 | 0.45641 | 0.2065 | 0.28435 | 0.14385 | 0.67391 | 0.23709 |
| | | ROUGE-2 | 0.04054 | 0.03015 | 0.03458 | 0.10811 | 0.03931 | 0.05766 | 0.02703 | 0.15714 | 0.04612 |
| | | ROUGE-SU4 | 0.14087 | 0.10168 | 0.11811 | 0.21362 | 0.07206 | 0.10777 | 0.05222 | 0.40161 | 0.09242 |
| 29 | rooms_swissotel_chi cago.txt | ROUGE-L | 0.17241 | 0.12195 | 0.14286 | 0.39655 | 0.13295 | 0.19913 | 0.09249 | 0.59259 | 0.16 |
| | | ROUGE-1 | 0.38614 | 0.31707 | 0.34821 | 0.42574 | 0.19196 | 0.26462 | 0.13839 | 0.59615 | 0.22464 |
| | | ROUGE-2 | 0.05405 | 0.04211 | 0.04734 | 0.06757 | 0.02381 | 0.03521 | 0.00952 | 0.05128 | 0.01606 |
| | | ROUGE-SU4 | 0.15655 | 0.11502 | 0.13261 | 0.18211 | 0.05816 | 0.08817 | 0.0398 | 0.28676 | 0.06989 |
| 30 | satellite_garmin_nu vi_255W_gps.txt | ROUGE-L | 0.20513 | 0.26667 | 0.23188 | 0.25641 | 0.15873 | 0.19608 | 0.15873 | 0.66667 | 0.25641 |
| | | ROUGE-1 | 0.26531 | 0.28889 | 0.2766 | 0.30612 | 0.21127 | 0.25 | 0.1831 | 0.72222 | 0.29213 |
| | | ROUGE-2 | 0.025 | 0.02857 | 0.02667 | 0 | 0 | 0 | 0.0303 | 0.14286 | 0.05 |
| | | ROUGE-SU4 | 0.09497 | 0.10968 | 0.1018 | 0.08939 | 0.05246 | 0.06612 | 0.05246 | 0.31373 | 0.08989 |
| 31 | screen_garmin_nuvi _255W_gps.txt | ROUGE-L | 0.26984 | 0.24286 | 0.25564 | 0.36508 | 0.22772 | 0.28049 | 0.08911 | 0.375 | 0.144 |
| | | ROUGE-1 | 0.44444 | 0.32 | 0.37209 | 0.43333 | 0.33333 | 0.37681 | 0.17094 | 0.47619 | 0.25157 |
| | | ROUGE-2 | 0.23288 | 0.1619 | 0.19101 | 0.26027 | 0.17593 | 0.20994 | 0.0463 | 0.15152 | 0.07092 |
| | | ROUGE-SU4 | 0.26829 | 0.18372 | 0.21809 | 0.28354 | 0.18788 | 0.226 | 0.06667 | 0.275 | 0.10732 |
| 32 | screen_ipod_nano_8gb.txt | ROUGE-L | 0.25 | 0.16327 | 0.19753 | 0.15625 | 0.07576 | 0.10204 | 0.12121 | 0.5 | 0.19512 |
| | | ROUGE-1 | 0.34783 | 0.21622 | 0.26667 | 0.23913 | 0.13924 | 0.176 | 0.16456 | 0.56522 | 0.2549 |
| | | ROUGE-2 | 0.05405 | 0.03175 | 0.04 | 0.02703 | 0.01351 | 0.01802 | 0.04054 | 0.16667 | 0.06522 |
| | | ROUGE-SU4 | 0.12195 | 0.06897 | 0.08811 | 0.07927 | 0.03768 | 0.05108 | 0.05217 | 0.27273 | 0.08759 |
| 33 | screen_netbook_1005ha.txt | ROUGE-L | 0.34921 | 0.24859 | 0.29043 | 0.13492 | 0.1453 | 0.13992 | 0.06215 | 0.2619 | 0.10046 |
| | | ROUGE-1 | 0.40331 | 0.30544 | 0.34762 | 0.30387 | 0.30055 | 0.3022 | 0.14226 | 0.46575 | 0.21795 |
| | | ROUGE-2 | 0.22297 | 0.14865 | 0.17838 | 0.0473 | 0.04698 | 0.04714 | 0.03153 | 0.12281 | 0.05018 |
| | | ROUGE-SU4 | 0.2608 | 0.17073 | 0.20637 | 0.10432 | 0.10324 | 0.10378 | 0.0439 | 0.21635 | 0.07299 |
| 34 | seats_honda_accord_2008.txt | ROUGE-L | 0.08333 | 0.13514 | 0.10309 | 0.03333 | 0.02299 | 0.02721 | 0.02299 | 0.18182 | 0.04082 |
| | | ROUGE-1 | 0.13333 | 0.18868 | 0.15625 | 0.06667 | 0.04808 | 0.05587 | 0.06731 | 0.36842 | 0.11382 |
| | | ROUGE-2 | 0.01613 | 0.02564 | 0.0198 | 0 | 0 | 0 | 0.01031 | 0.07692 | 0.01818 |
| | | ROUGE-SU4 | 0.03915 | 0.06548 | 0.049 | 0.01779 | 0.01111 | 0.01368 | 0.01778 | 0.18605 | 0.03245 |
| 35 | service_bestwestern _hotel_sfo.txt | ROUGE-L | 0.12903 | 0.10256 | 0.11429 | 0.37097 | 0.14024 | 0.20354 | 0.05488 | 0.375 | 0.09574 |
| | | ROUGE-1 | 0.27679 | 0.26496 | 0.27074 | 0.33929 | 0.19689 | 0.24918 | 0.11399 | 0.45833 | 0.18257 |
| | | ROUGE-2 | 0 | 0 | 0 | 0.03371 | 0.01657 | 0.02222 | 0.01657 | 0.08333 | 0.02765 |
| | | ROUGE-SU4 | 0.08312 | 0.08088 | 0.08199 | 0.11335 | 0.05325 | 0.07246 | 0.02959 | 0.20161 | 0.0516 |
| 36 | service_holiday_inn_london.txt | ROUGE-L | 0.33333 | 0.30159 | 0.31667 | 0.50877 | 0.14948 | 0.23108 | 0.0567 | 0.30556 | 0.09565 |
| | | ROUGE-1 | 0.42982 | 0.40496 | 0.41702 | 0.46491 | 0.20385 | 0.28342 | 0.11538 | 0.44118 | 0.18293 |
| | | ROUGE-2 | 0.11765 | 0.11111 | 0.11429 | 0.24706 | 0.08571 | 0.12727 | 0.00816 | 0.03774 | 0.01342 |
| | | ROUGE-SU4 | 0.22192 | 0.21039 | 0.216 | 0.34521 | 0.10957 | 0.16634 | 0.03217 | 0.19271 | 0.05514 |

| No. | Text Document | PROPOSED MODEL | | | LSA | | | MS Word | | | |
|-----|-------------------------------------|----------------|------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | ROUGE-TYPE | Avg Recall | Avg Precision | Avg F-Score | Avg Recall | Avg Precision | Avg F-Score | Avg Recall | Avg Precision | Avg F-Score |
| 37 | service_swissotel_hotel_chicago.txt | ROUGE-L | 0.29787 | 0.14141 | 0.19178 | 0.21277 | 0.04255 | 0.07092 | 0.0766 | 0.42857 | 0.12996 |
| | | ROUGE-1 | 0.54717 | 0.34524 | 0.42336 | 0.34906 | 0.11672 | 0.17494 | 0.1388 | 0.53659 | 0.22055 |
| | | ROUGE-2 | 0.21127 | 0.11628 | 0.15 | 0.07042 | 0.01672 | 0.02703 | 0.02676 | 0.125 | 0.04408 |
| | | ROUGE-SU4 | 0.33216 | 0.16726 | 0.22249 | 0.15901 | 0.03203 | 0.05332 | 0.04128 | 0.25 | 0.07086 |
| 38 | size_asus_netbook_1005ha.txt | ROUGE-L | 0.375 | 0.4375 | 0.40385 | 0.39286 | 0.22222 | 0.28387 | 0.05051 | 0.2 | 0.08065 |
| | | ROUGE-1 | 0.51852 | 0.58333 | 0.54902 | 0.32099 | 0.22414 | 0.26396 | 0.09483 | 0.2973 | 0.14379 |
| | | ROUGE-2 | 0.39706 | 0.46552 | 0.42857 | 0.20588 | 0.12844 | 0.15819 | 0.01835 | 0.06667 | 0.02878 |
| | | ROUGE-SU4 | 0.42765 | 0.51953 | 0.46914 | 0.24116 | 0.14706 | 0.1827 | 0.02941 | 0.13043 | 0.048 |
| 39 | sound_ipod_nano_8gb.txt | ROUGE-L | 0.34615 | 0.14516 | 0.20455 | 0.38462 | 0.13158 | 0.19608 | 0.10526 | 0.44444 | 0.17021 |
| | | ROUGE-1 | 0.5 | 0.27619 | 0.35583 | 0.48276 | 0.25225 | 0.33136 | 0.1982 | 0.62857 | 0.30137 |
| | | ROUGE-2 | 0.2093 | 0.10227 | 0.1374 | 0.2093 | 0.08738 | 0.12329 | 0.06796 | 0.25 | 0.10687 |
| | | ROUGE-SU4 | 0.25275 | 0.11414 | 0.15726 | 0.26374 | 0.10105 | 0.14612 | 0.06526 | 0.29245 | 0.10671 |
| 40 | speed_garmin_nuvi_255W_gps.txt | ROUGE-L | 0.14286 | 0.11538 | 0.12766 | 0.21429 | 0.1 | 0.13636 | 0.07778 | 0.4375 | 0.13208 |
| | | ROUGE-1 | 0.31507 | 0.29114 | 0.30263 | 0.32877 | 0.21053 | 0.25668 | 0.13158 | 0.625 | 0.21739 |
| | | ROUGE-2 | 0.09677 | 0.08955 | 0.09302 | 0.1129 | 0.06481 | 0.08235 | 0.05556 | 0.3 | 0.09375 |
| | | ROUGE-SU4 | 0.12982 | 0.11897 | 0.12416 | 0.15439 | 0.08627 | 0.11069 | 0.05294 | 0.3375 | 0.09153 |
| 41 | speed_windows7.txt | ROUGE-L | 0.2 | 0.16842 | 0.18286 | 0.3875 | 0.19497 | 0.25941 | 0.10692 | 0.56667 | 0.17989 |
| | | ROUGE-1 | 0.28276 | 0.29927 | 0.29078 | 0.45517 | 0.27966 | 0.34646 | 0.16102 | 0.67857 | 0.26027 |
| | | ROUGE-2 | 0.04839 | 0.0531 | 0.05063 | 0.16935 | 0.09333 | 0.12034 | 0.04444 | 0.22222 | 0.07407 |
| | | ROUGE-SU4 | 0.09201 | 0.10352 | 0.09743 | 0.24306 | 0.13084 | 0.17011 | 0.06636 | 0.4104 | 0.11424 |
| 42 | staff_bestwestern_hotel_sfo.txt | ROUGE-L | 0.45 | 0.19251 | 0.26966 | 0.5125 | 0.14801 | 0.22969 | 0.05776 | 0.69565 | 0.10667 |
| | | ROUGE-1 | 0.5561 | 0.33529 | 0.41835 | 0.59024 | 0.26362 | 0.36446 | 0.17865 | 0.82 | 0.29338 |
| | | ROUGE-2 | 0.25333 | 0.13669 | 0.17757 | 0.33333 | 0.11601 | 0.17212 | 0.07193 | 0.42466 | 0.12302 |
| | | ROUGE-SU4 | 0.34268 | 0.176 | 0.23256 | 0.43458 | 0.13846 | 0.21001 | 0.0804 | 0.65854 | 0.1433 |
| 43 | staff_swissotel_chicago.txt | ROUGE-L | 0.42373 | 0.40984 | 0.41667 | 0.33898 | 0.09804 | 0.15209 | 0.07353 | 0.625 | 0.13158 |
| | | ROUGE-1 | 0.68 | 0.58621 | 0.62963 | 0.392 | 0.18491 | 0.25128 | 0.13208 | 0.56452 | 0.21407 |
| | | ROUGE-2 | 0.40909 | 0.34286 | 0.37306 | 0.03409 | 0.0122 | 0.01796 | 0.02439 | 0.13333 | 0.04124 |
| | | ROUGE-SU4 | 0.53699 | 0.4375 | 0.48216 | 0.19178 | 0.06167 | 0.09333 | 0.0467 | 0.34868 | 0.08236 |
| 44 | transmission_toyota_camry_2007.txt | ROUGE-L | 0.35849 | 0.26027 | 0.30159 | 0.26415 | 0.08383 | 0.12727 | 0.08383 | 0.48276 | 0.14286 |
| | | ROUGE-1 | 0.57426 | 0.43939 | 0.49785 | 0.35644 | 0.1659 | 0.22642 | 0.12442 | 0.6 | 0.20611 |
| | | ROUGE-2 | 0.32432 | 0.23301 | 0.27119 | 0.05405 | 0.0197 | 0.02888 | 0.0197 | 0.125 | 0.03404 |
| | | ROUGE-SU4 | 0.42767 | 0.2989 | 0.35188 | 0.15723 | 0.05291 | 0.07918 | 0.03598 | 0.31776 | 0.06464 |
| 45 | updates_garmin_navi_255W_gps.txt | ROUGE-L | 0.23077 | 0.14754 | 0.18 | 0.23077 | 0.1125 | 0.15126 | 0.075 | 0.5 | 0.13043 |
| | | ROUGE-1 | 0.28571 | 0.20513 | 0.23881 | 0.26786 | 0.17442 | 0.21127 | 0.0814 | 0.46667 | 0.13861 |
| | | ROUGE-2 | 0.02222 | 0.01515 | 0.01802 | 0.06667 | 0.0375 | 0.048 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.095 | 0.06209 | 0.0751 | 0.11 | 0.05946 | 0.07719 | 0.01892 | 0.21212 | 0.03474 |

| No. | Text Document | ROUGE-TYPE | PROPOSED MODEL | | | LSA | | | MS Word | | |
|-----|--------------------------------|------------|----------------|---------------|-------------|------------|---------------|-------------|------------|---------------|-------------|
| | | | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score | Avg_Recall | Avg_Precision | Avg_F-Score |
| 46 | video_ipod_nano_8gb.txt | ROUGE-L | 0.44 | 0.23656 | 0.30769 | 0.5 | 0.15152 | 0.23256 | 0.13939 | 0.53488 | 0.22115 |
| | | ROUGE-1 | 0.5514 | 0.36646 | 0.4403 | 0.51402 | 0.21739 | 0.30556 | 0.18182 | 0.63014 | 0.28221 |
| | | ROUGE-2 | 0.10526 | 0.06504 | 0.0804 | 0.10526 | 0.03376 | 0.05112 | 0.03797 | 0.15789 | 0.06122 |
| | | ROUGE-SU4 | 0.27215 | 0.16444 | 0.20501 | 0.27532 | 0.07873 | 0.12245 | 0.06425 | 0.343 | 0.10823 |
| 47 | voice_garmin_nuvi_255W_gps.txt | ROUGE-L | 0.15909 | 0.10448 | 0.12613 | 0.31818 | 0.13725 | 0.19178 | 0.03922 | 0.22222 | 0.06667 |
| | | ROUGE-1 | 0.31429 | 0.20755 | 0.25 | 0.35714 | 0.20661 | 0.26178 | 0.06612 | 0.30769 | 0.10884 |
| | | ROUGE-2 | 0.01818 | 0.01111 | 0.01379 | 0.10909 | 0.0531 | 0.07143 | 0.00885 | 0.05263 | 0.01515 |
| | | ROUGE-SU4 | 0.11157 | 0.06459 | 0.08182 | 0.14463 | 0.06667 | 0.09126 | 0.01905 | 0.15152 | 0.03384 |
| 48 | battery-life_ipod_nano_8gb | ROUGE-L | 0.33333 | 0.63636 | 0.4375 | 0.28571 | 0.07143 | 0.11429 | 0.09524 | 0.57143 | 0.16327 |
| | | ROUGE-1 | 0.4359 | 0.62963 | 0.51515 | 0.35897 | 0.13333 | 0.19444 | 0.13333 | 0.63636 | 0.22047 |
| | | ROUGE-2 | 0.17857 | 0.33333 | 0.23256 | 0.10714 | 0.0303 | 0.04724 | 0.0404 | 0.25 | 0.06957 |
| | | ROUGE-SU4 | 0.22609 | 0.47273 | 0.30588 | 0.17391 | 0.04301 | 0.06897 | 0.04301 | 0.38462 | 0.07737 |
| 49 | food_swissotel_chicago | ROUGE-L | 0.23077 | 0.14754 | 0.18 | 0.23077 | 0.1125 | 0.15126 | 0.075 | 0.5 | 0.13043 |
| | | ROUGE-1 | 0.28571 | 0.20513 | 0.23881 | 0.26786 | 0.17442 | 0.21127 | 0.0814 | 0.46667 | 0.13861 |
| | | ROUGE-2 | 0.02222 | 0.01515 | 0.01802 | 0.06667 | 0.0375 | 0.048 | 0 | 0 | 0 |
| | | ROUGE-SU4 | 0.095 | 0.06209 | 0.0751 | 0.11 | 0.05946 | 0.07719 | 0.01892 | 0.21212 | 0.03474 |
| 50 | free_bestwestern_hotel_sfo | ROUGE-L | 0.38095 | | 0.25 | 0.44444 | 0.10811 | 0.17391 | 0.0695 | 0.66667 | 0.12587 |
| | | ROUGE-1 | 0.54494 | 0.34397 | 0.42174 | 0.55618 | 0.21064 | 0.30556 | 0.18511 | 0.74359 | 0.29642 |
| | | ROUGE-2 | 0.13386 | 0.07456 | 0.09577 | 0.22047 | 0.06321 | 0.09825 | 0.05869 | 0.28571 | 0.09738 |
| | | ROUGE-SU4 | 0.26079 | 0.13548 | 0.17832 | 0.33959 | 0.08702 | 0.13854 | 0.07404 | 0.46951 | 0.12791 |
| 51 | parking_bestwestern_hotel_sfo | ROUGE-L | 0.17241 | 0.12195 | 0.14286 | 0.39655 | 0.13295 | 0.19913 | 0.09249 | 0.59259 | 0.16 |
| | | ROUGE-1 | 0.38614 | 0.31707 | 0.34821 | 0.42574 | 0.19196 | 0.26462 | 0.13839 | 0.59615 | 0.22464 |
| | | ROUGE-2 | 0.05405 | 0.04211 | 0.04734 | 0.06757 | 0.02381 | 0.03521 | 0.00952 | 0.05128 | 0.01606 |
| | | ROUGE-SU4 | 0.15655 | 0.11502 | 0.13261 | 0.18211 | 0.05816 | 0.08817 | 0.0398 | 0.28676 | 0.06989 |

Appendix B

I previously owned a Toyota 4Runner, which had incredible build quality and reliability.

I bought the Camry because of Toyota reliability and quality.

I purchased a 2007 Camry because of the looks of the redesigned model and because of the legendary Toyota quality and reliability.

As of today, I am a bit disappointed in the build quality of the car.

Disappointed in interior and exterior quality.

Toyota did a great job with design but forgot about quality!

This car needs quality improvement!

The fit and finish in the cabin is not the level of quality I expected.

This car looks great and the build quality is good.

I am so disappointed in the quality.

I have had two Camry's before the one, and bought it thinking that the quality standards known to a Toyota would remain excellent.

It is now apparent that Toyota quality took a nosedive.

Mine suffers from the tranny slip on the 3, 4 upshift when cold, build quality is good but nothing like the Toyota, hype I was expecting, as it has its share of squeaks and rattles just like a 10 year old Chevy.

Overall a good car, no build quality issues yet.

After owning a 95 Camry, I expected the same quality.

The quality of construction, ride, quietness, and legroom are excellent.

A lot of defects that I still do not understand how my car passed the quality inspection when it was manufactured.

This car offers poor driver's seat comfort, poor vision, only average ride quality, gas mileage

JBL radio is low quality cd, fm, and mp3 all sound the same.

It has high quality amazing ride and the fit and finish is great.

Opiniosis (quality_toyota_camry_2007) of original document

**A poor quality car based on expectations.
Toyota quality is depreciating.**

Quality_toyota_camry_2007 Human Summary (H1)

**The interior and exterior quality is disappointing.
The standards have dropped since earlier models.**

Quality_toyota_camry_2007 Human Summary (H2)

The interior and exterior quality is disappointing.
The standards have dropped since earlier models.

Quality_toyota_camry_2007 Human Summary (H3)

Disappointed in the quality.

Quality_toyota_camry_2007 Human Summary (H4)

This car needs quality improvement!

Interior quality is very poor.

Overall, build quality very good.

Horrible quality of interior.

Toyota's quality is slipping.

Excellent interior build quality.

Summary obtained for the quality_toyota_camry_2007 from MSWord Summarizer

Mine suffers from the tranny slip on the 3, 4 upshift when cold, build quality is good but nothing like the Toyota, hype I was expecting, as it has its share of squeaks and rattles just like a 10 year old Chevy.

The ride, comfort, and drive is as expected, however, the quality and reputation of yore are completely gone for the flagship Camry.

Examples include fit and finish had to have the driver's door realigned due to metal, to, metal contact causing terrible rattling, poor fit of interior parts, which causes a lot of rattling, especially when it's cold out the auto tranny has a history of serious problems and acts weird, and lastly the paint quality, which chips very easily.

I have rattles on both B pillars and the build quality is rather poor, with unsightly gaps in the passenger side dash where it does not fit together properly.

Vehicle ride is extremely smooth, compliant and quiet, very close to Lexus quality for thousands of dollars less.

I love the car's visual and aesthetic design, but quality is just as important and for that reason, I would NOT recommend the new Camry to anyone!

Summary obtained for the quality_toyota_camry_2007 from LSA Summarizer

Excellent interior build quality.

Some have mentioned **disappointing build quality.**

Disappointed in the quality.

Horrible quality of **interior**.

Disappointed in interior and exterior quality.

Summary obtained for the quality_toyota_camry_2007 from our proposed Summarizer

Bold and underline sentence and word, which are overlapped in human prepared summaries and summaries are generated with the help of different summarize tools. As we can see that, our proposed summarizer showing the highest common word and common sentences in human prepared a summary. Whereas, LSA Summarizer shows very rare word and sentence. However, MSWord Summarizer shows quite good performance in comparison of LSA. In comparison, of all, our proposed Summarizer shows excellent performance.