

Table 6

The results of computing the value of CTPH and the editorial distance between hashes of the obfuscated source code of surtr software

| File number in the dataset | surtr file hash values<br>(40 byte)          | surtr file hash values<br>(1024 byte)        | Editorial distance | Percentage of malware samples<br>calculated using <b>scdeep</b> | Percentage of<br>malware samples<br>computed using<br>convolutional<br>neural<br>networks |    |     | Percentage of<br>malware samples<br>computed using<br>capsule<br>neural network |    |     |
|----------------------------|--|--|--------------------|---|---|----|-----|---|----|-----|
|                            |  |  |                    |   | Training epoch  |    |     | Training epoch  |    |     |
|                            |  |  |                    |   | I   | II | III | I   | II | III |
| 1.                         | 15bd55c6675c63c76c66<br>75965c336c66cbdbb663 | 4c63c366c5677567b9d5<br>3d9c7c4c355b6c74773c | 32                 | 38  | 31  | 35 | 38  | 55  | 52 | 50  |
| 2.                         | 77c7366363977756c95c<br>49cc44376c567c3666d7 | 155c5769c56c5c96656d<br>46d5d7c776695d55d6dc | 33                 | 37  | 42  | 46 | 47  | 56  | 57 | 59  |
| 3.                         | c757cc4c635b7675cd56<br>5957935d5576767576dc | 56b7475154c95c6c475b<br>5556c76674c4cb69c7bc | 32                 | 35  | 34  | 35 | 37  | 61  | 64 | 63  |
| 4.                         | 67657c7c7c6c57cc57c7<br>b9766d5c5dd5d76566cc | 766b59cc665c4b7c4636<br>d6c6c94755c753649c77 | 29                 | 34  | 34  | 38 | 39  | 52  | 54 | 56  |
| 5.                         | c7674c653bb765cc6637<br>c7c5dd65964749c6c799 | b656d959635694c69ccb<br>cd5c7bcc6569d6555b59 | 32                 | 33  | 30  | 34 | 32  | 51  | 53 | 58  |
| 6.                         | bc65c7d6653776955c6c<br>7dcc76494b35667c57dc | 53363546c367d563c93c<br>761577373dcc6555669b | 33                 | 39  | 42  | 46 | 47  | 55  | 57 | 59  |
| 7.                         | c6c7bbc593cb596c43d4<br>5c9756b9c444c6db6446 | 75553c7665b5d5666994<br>c6d5bdc4c33c77ddc673 | 31                 | 42  | 42  | 46 | 45  | 59  | 61 | 61  |
| 8.                         | 956c555b57976cb6579d<br>5c6d776665375b3c4c5b | 474c7c5555c6c53666d9<br>5666543c4bc9b9757669 | 32                 | 41  | 55  | 53 | 54  | 61  | 63 | 62  |
| 9.                         | 46cc3cb53b555bcb9747<br>6656c77c466696ccb5cc | c6957cc6c74c9567c675<br>6d5cc46c53c6b3cc43dc | 28                 | 36  | 34  | 38 | 34  | 60  | 60 | 58  |
| 10.                        | c5dd975465d55559777c<br>6c6bc776957575667c95 | cc6776cb36c4cc675656<br>c99cc77465d7736c4336 | 32                 | 35  | 34  | 36 | 35  | 55  | 54 | 56  |
| 11.                        | 665755656b4d36cc3c65<br>6c6d5749565675955b75 | 47c4649d7b756c7b595d<br>34954d766d55635435c6 | 33                 | 34  | 34  | 36 | 35  | 42  | 45 | 48  |
| 12.                        | 96c5c557ccdb4c6536c<br>c5666d54c6676b65ccc3  | 5753b757776576b5757<br>3535553ccc76c3957c6d  | 31                 | 39  | 56  | 54 | 57  | 68  | 67 | 67  |
| 13.                        | 7157c65c6cccd79c5d76<br>cc66bc76d67c65634cb5 | 67c6cb95c3776bd35c74<br>767977c5bd43956539c6 | 31                 | 37  | 34  | 35 | 39  | 55  | 54 | 52  |
| 14.                        | dc65ccd946c965595db<br>c571556c4c3c49c561575 | 66c15664336675cd65dc<br>76965d5c663d3675556d | 31                 | 42  | 42  | 41 | 40  | 60  | 64 | 62  |
| 15.                        | c555cbe35cb749555753<br>b6cbccc4b66397413b5c | bcc3dc544cdb55cc6d67<br>69d6765ddc6373755b36 | 34                 | 46  | 34  | 36 | 35  | 55  | 54 | 52  |
| 16.                        | c3644c5337677c6659c5<br>7655466c55655dcd564  | 7cc69756615b75b56c6b<br>6c5bc54b4396d9c565c3 | 32                 | 48  | 44  | 42 | 41  | 52  | 50 | 54  |
| 17.                        | 6566c6b4476539cc9c5c<br>ccc595b735755cb65677 | 5677765696c66c5666793<br>555cdc656677cd74359 | 32                 | 43  | 40  | 42 | 41  | 50  | 53 | 52  |
| 18.                        | 5677765696c66c5666793<br>555cdc656677cd74359 | 665b597cc6b6bc5954d5<br>cc5633c66c66774cdb9c | 29                 | 35  | 37  | 39 | 38  | 52  | 50 | 54  |
| 19.                        | c6cd7666cc75655db36<br>74c7775cc6b775646cc4  | c9cc7de9cdc665354c46<br>c656b74c59b7756c3d56 | 25                 | 44  | 37  | 34 | 36  | 45  | 42 | 47  |
| 20.                        | 5d536ccc5c5153757753<br>4b6b66c61594c15c66d5 | 7c56b6356d556c7c7c47<br>c53615cc5c6cb536c3c5 | 30                 | 31  | 34  | 35 | 39  | 44  | 49 | 48  |