## **Forensics & Detection**

#### **Class Distribution**



Source IP	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
0.0.0.0	10274120.139276763	7253436.948442763	32616.25441040242	23026.78396331035	134.0	0.0	60	58	0.9666666666666
1.31.173.11	0.0	0.0	23821.20148239716	33655.23676171924	5.0	1.0	2	1	0.5
10.42.0.1	161.02790306200905	361.93372115596867	299.7407007675279	7407.802955413372	5363.0	0.0	1037	964	0.929604628736740
10.42.0.151	91838.22137686872	1032079.1430236087	3778.0039447221957	27777.711392325957	810364.0	1035195.0	90322	63500	0.703040233830074
10.42.0.211	47332.075225862565	732513.7603779059	3113.2367492017734	35550.66159444077	645314.0	935347.0	89360	86065	0.963126678603402
10.42.0.42	118714.975503121	1377221.302646274	4769.806641556827	35407.35274364849	284592.0	425834.0	40854	25555	0.625520144906251
103.235.46.211	0.0	0.0	109301.62592711851	99444.31216860522	156.0	0.0	78	69	0.884615384615384
103.235.46.212	0.0	0.0	89502.57681562364	103758.69620856065	132.0	2.0	66	65	0.984848484848484
103.235.46.39	0.0	0.0	20538.737482890992	46912.90760087205	158.0	6.0	80	71	0.8875
103.235.47.110	509756.5424737585	189545.44738074308	49331.27830391212	18343.10781103965	12.0	0.0	4	4	1.0
103.235.47.88	62.042247474634095	417.4247995271439	42001.296731055365	29916.689013620857	255.0	11.0	128	128	1.0
103.7.30.118	0.0	0.0	730.8541824611356	4378.039550434356	126.0	122.0	124	104	0.838709677419354
104.192.108.22	1005.3627647424859	4241.278676262524	1518.549160931411	8016.234741220075	94.0	82.0	80	65	0.8125
104.192.108.27	0.0	0.0	4562.868240516868	20153.17589691386	271.0	123.0	197	163	0.827411167512690
104.192.110.245	69977.06616495749	499722.7034970985	3884.11498526671	26029.719331998298	270.0	223.0	129	124	0.961240310077519
104.193.88.102	0.0	0.0	243864.9531040836	282960.76140954584	20.0	0.0	10	10	1.0
104.193.88.109	0.0	0.0	166750.87696308663	245032.95402067277	252.0	5.0	127	93	0.7322834645669292
104.208.31.113	0.0	0.0	9391.675970712176	40586.94909633921	32.0	8.0	20	16	0.8
104.210.9.95	0.0	0.0	56652.096751887686	156272.00427141236	19.0	1.0	10	10	1.0
104.237.191.1	1018518.5185185185	1440402.7024170414	37305.42136339238	51998.72733363231	3.0	2.0	2	0	0.0
104.244.42.1	807911.7664267743	1652215.2112734565	90480.90808242846	142066.975551344	20.0	4.0	12	10	0.8333333333333333
104.244.42.129	357318.34935630317	559049.2428553962	24028.43630204171	35366.96189489578	11.0	1.0	6	5	0.8333333333333333
104.244.42.130	605052.0018892365	993241.7600451743	38741.6691015597	64262.066687050254	50.0	12.0	20	20	1.0
104.244.42.193	826991.1377096361	1310244.036392622	58119.6080729648	82695.6486655225	33.0	10.0	19	18	0.947368421052631
104.244.42.194	250126.49292968426	567989.4833045328	15583.297893182911	36904.64477114309	16.0	12.0	6	4	0.6666666666666666666666666666666666666
104.244.42.2	640027.3649311297	1518293.5412623957	41087.49905051067	98043.18204809084	49.0	9.0	19	19	1.0
104.244.42.65	865365.8972817846	1425354.6421715245	56721.74479046708	91398.32349714405	24.0	8.0	15	9	0.6

Source IP	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
104.244.42.66	384266.3125208716	493638.2716878515	20825.967116341304	30555.327379792045	31.0	7.0	12	10	0.833333333333333
104.244.43.195	34559.64325529543	165742.22655818763	2304.6352013612377	10679.513725555067	24.0	59.0	23	23	1.0
104.244.43.35	26724.13793103448	143913.88708721517	1764.1217022597846	9278.468171239645	30.0	73.0	29	24	0.8275862068965517
104.244.46.167	1529406.9069069067	1166064.0252325651	61251.88355615402	40463.00774832875	9.0	3.0	4	2	0.5
104.41.208.54	0.0	0.0	11134.950658288442	15186.309003365683	7.0	1.0	4	3	0.75
104.46.105.95	0.0	0.0	33349.10170382971	67510.21954001348	25.0	3.0	14	14	1.0
104.46.62.41	0.0	0.0	35819.21360552716	71358.66685926434	7.0	1.0	4	3	0.75
104.46.97.194	0.0	0.0	83868.43906945699	109739.14509810756	16.0	0.0	8	6	0.75
104.47.151.128	0.0	0.0	25437.109958304583	36684.253723351096	11.0	1.0	6	6	1.0
104.68.226.45	785300.925925926	94117.22203293172	68287.03703703704	8184.106263733188	4.0	0.0	2	0	0.0
104.79.91.103	7817982.456140351	10864013.396914368	504385.9649122807	700904.0901235077	4.0	0.0	2	2	1.0
104.84.148.238	1188802.6574947818	584102.006242158	76696.94564482463	37684.000402719874	6.0	0.0	3	3	1.0
104.88.100.169	0.0	0.0	2254.8988280492035	2877.003970739787	6.0	2.0	4	4	1.0
104.88.89.135	2834308.3795912215	3203066.332618569	182858.6051349175	206649.44081410125	24.0	0.0	12	12	1.0
104.93.181.26	1089105.139105139	670403.9735635024	94704.79470479471	58295.99770117413	12.0	0.0	6	6	1.0
104.97.130.230	1772885.1540616245	1701698.57496548	123473.45204277885	105117.99299856204	13.0	3.0	7	4	0.5714285714285714
104.97.95.172	0.0	0.0	11956.513208278788	26273.301363013055	16.0	10.0	13	9	0.6923076923076923
106.11.129.129	0.0	0.0	16386.065631701513	19970.669550884464	9.0	3.0	6	3	0.5
106.11.129.143	17071.87434244214	85043.77705992245	51211.0638896705	174704.04326753636	43.0	38.0	34	32	0.9411764705882353
106.11.134.4	0.0	0.0	83333.33333333317	70710.67811865451	4.0	0.0	2	1	0.5
106.11.135.2	4072.7713357680204	14108.49376232075	18372.615541179348	27917.718101486997	17.0	17.0	12	11	0.916666666666666
106.11.15.99	13205.411723026195	29717.882238042665	4476.586768945689	25965.68861436277	72.0	41.0	41	29	0.7073170731707317
106.11.176.1	0.0	0.0	12593.780943649408	21773.67345507797	5.0	2.0	3	3	1.0

### **Attack Vs Time**

Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
04/07/2017 10:05:16	344.6366990697	nan	0.9456494792	nan	11.0	7.0	1	1	1.0
04/07/2017 10:05:17	738.3061827189	1044.1226167849768	10251.714289602649	14363.387886990147	4.0	0.0	2	2	1.0
04/07/2017 10:05:19	158.3102733024	nan	0.8314615194	nan	14.0	11.0	1	1	1.0
04/07/2017 10:05:21	207.0460668001	nan	0.5628163556	nan	5.0	3.0	1	1	1.0
04/07/2017 10:05:23	25.9489999978	nan	0.5318565264	nan	17.0	21.0	1	1	1.0
04/07/2017 10:05:24	1.56150183165	2.2082970679898595	27.83666500375	38.50820698644437	5.0	4.0	2	2	1.0
04/07/2017 10:05:27	0.0	0.0	54.584131047	1.1626750351911959	2.0	2.0	2	2	1.0
04/07/2017 10:05:34	0.0	nan	54.4158458943	nan	1.0	1.0	1	1	1.0
04/07/2017 10:05:35	0.0	0.0	39.176287959774996	16.34453983887012	4.0	5.0	4	4	1.0
04/07/2017 10:05:37	26329.696035804198	57925.5645974101	11563.04144553294	20140.06664518865	135.0	128.0	5	5	1.0
04/07/2017 10:05:38	2056.909505319267	2667.9564005505044	46.700068998099994	74.56653910191145	73.0	86.0	3	3	1.0
04/07/2017 10:05:39	2979.8015487780667	5066.930020697864	9.8910525646	16.693621597354888	20.0	13.0	3	3	1.0
04/07/2017 10:05:40	30101.9819606351	nan	81.0617846687	nan	13.0	13.0	1	1	1.0
04/07/2017 10:05:43	3654.1422630798	nan	13.6197505524	nan	19.0	18.0	1	1	1.0
04/07/2017 10:05:44	7160.549793993067	6847.83050725644	24.911800312633336	13.239986162820049	24.0	20.0	3	3	1.0
04/07/2017 10:05:45	19222.962467506026	3936.428596753819	66.42090460965	15.550848032048089	40.0	38.0	4	4	1.0
04/07/2017 10:05:46	1284450.53791974	nan	1088.3270635288	nan	217.0	1038.0	1	1	1.0
04/07/2017 10:05:52	404544.3210255264	688915.6496022384	19581.475604390133	32538.61776274647	9.0	0.0	3	3	1.0
04/07/2017 10:05:53	531.2106676278	699.5535959727983	67.07687228830001	94.37362008948807	10.0	11.0	2	2	1.0
04/07/2017 10:05:55	16742.9667580354	nan	47.8370478801	nan	11.0	9.0	1	1	1.0
04/07/2017 10:05:58	26508.530308442452	36285.23619065001	106.75191899250001	34.50353841036557	15.0	13.0	2	2	1.0
04/07/2017 10:06:03	6492.3875362378	nan	65.8868368236	nan	6.0	7.0	1	1	1.0
04/07/2017 10:06:15	9283.1314556275	nan	21.3744193897	nan	17.0	12.0	1	1	1.0
04/07/2017 10:06:16	13709.2844098116	nan	44.3028939635	nan	9.0	9.0	1	1	1.0
04/07/2017 10:06:24	72984.2336474218	nan	88.358636377	nan	30.0	48.0	1	1	1.0
04/07/2017 10:06:36	642845.3209342296	639149.8092707205	585.51287874648	533.7877497723147	326.0	1405.0	5	5	1.0
04/07/2017 10:06:37	112107.29832505126	210131.73155479348	149.37369935943335	218.97085472658623	245.0	392.0	12	12	1.0
04/07/2017 10:06:38	141913.21148602685	326243.90585131664	192.3418540127333	301.1637650772595	153.0	308.0	6	6	1.0

Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
04/07/2017 10:06:40	21318.4502708201	nan	36.6102563633	nan	91.0	81.0	1	1	1.0
04/07/2017 10:06:42	4052.9248827218	5731.701336424555	22250.184772143602	31387.423035398035	10.0	9.0	2	2	1.0
04/07/2017 10:06:45	18311.5217665805	nan	40.5455343728	nan	19.0	16.0	1	1	1.0
04/07/2017 10:07:12	133.37052476965	239.24308519395325	1.776251756875	2.8288989213957922	16.0	13.0	4	4	1.0
04/07/2017 10:07:13	74.04228220355	104.71159968131647	46.8747173683	65.38637940979147	44.0	35.0	2	2	1.0
04/07/2017 10:07:14	9977.8569824833	7719.644351775619	18.077122869100002	12.605489203318474	106.0	89.0	5	5	1.0
04/07/2017 10:07:15	9596.76335689685	5780.493634298515	27.683700886849998	0.4098236448301671	33.0	31.0	2	2	1.0
04/07/2017 10:07:16	30860.7772457367	8459.698444807558	112.211724958875	4.998378969876666	46.0	38.0	4	4	1.0
04/07/2017 10:07:17	53.3325032896	nan	0.3293824187	nan	12.0	12.0	1	1	1.0
04/07/2017 10:07:21	1017.26213047995	1438.6259014132943	5.7943753331000005	8.12704144225131	7.0	4.0	2	2	1.0
04/07/2017 10:07:22	19729.6154085772	nan	95.0903850505	nan	15.0	14.0	1	1	1.0
04/07/2017 10:07:23	12217.42396130605	8248.767265357004	73.7451373719	11.500359854355061	24.0	22.0	2	2	1.0
04/07/2017 10:07:24	65856.8628268757	nan	131.375901906	nan	26.0	37.0	1	1	1.0
04/07/2017 10:07:25	13469.6144295009	nan	72.4372535508	nan	21.0	18.0	1	1	1.0
04/07/2017 10:07:26	3345.93738459915	4631.26561373946	33.79382029675	47.22843291251036	20.0	19.0	2	2	1.0
04/07/2017 10:07:39	14.0281829739	nan	0.5458064365	nan	28.0	29.0	1	1	1.0
04/07/2017 10:07:43	8563.6575260679	nan	42.2152131567	nan	7.0	7.0	1	1	1.0
04/07/2017 10:07:46	538606.4030131822	633098.9630482004	20407.698271685076	22119.821005006794	8.0	0.0	4	4	1.0
04/07/2017 10:07:47	405631.91418035503	699382.3715474444	16824.55483031295	23952.470312417132	8.0	0.0	4	4	1.0
04/07/2017 10:07:48	833333.333333335	1178511.3019775816	32920.8313501507	39152.82669111617	4.0	0.0	2	2	1.0
04/07/2017 10:07:55	12083.3333333333	nan	36.7647058824	nan	2.0	1.0	1	1	1.0
04/07/2017 10:08:00	0.0	nan	0.0443137975	nan	2.0	0.0	1	1	1.0

# **Peak Attack Time Analysis**

Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
04/07/2017 10:06:37	112107.29832505126	210131.73155479348	149.37369935943335	218.97085472658623	245.0	392.0	12	12	1.0

Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
04/07/2017 10:13:09	151387.75244881836	241852.71942971958	236.4410687419625	365.9226170803905	245.0	238.0	16	16	1.0
04/07/2017 10:13:10	34649.2638806777	164956.1465444646	53.687850208389285	240.34523229108248	360.0	346.0	28	28	1.0
04/07/2017 10:13:11	458.296548160775	519.8941540414908	1.8881910976666667	2.5459510458529353	67.0	58.0	12	12	1.0
04/07/2017 10:13:20	0.0	0.0	1.3834734399416666	1.7756353558543727	18.0	6.0	12	12	1.0
04/07/2017 10:13:21	0.0	0.0	0.5136521391705882	0.8198045397073922	28.0	6.0	17	17	1.0
04/07/2017 10:15:51	69464.69982702807	101275.88061379289	102.33032419957273	112.8553592257763	319.0	379.0	11	11	1.0
04/07/2017 10:15:55	3794.567313412893	9549.002832141077	17.534195378728572	34.69346913128889	142.0	112.0	14	14	1.0
04/07/2017 10:17:51	621465.347025545	977328.1524333234	40109.367485790375	63043.16076808256	13.0	18.0	12	12	1.0
05/07/2017 08:54:18	26190.063138397916	103353.18886140393	97.71312517158236	294.88552927350975	88.0	119.0	17	17	1.0
05/07/2017 08:56:37	1130.3510496988918	1556.2768872348474	1.6937532804000002	1.6647258060465029	97.0	135.0	12	12	1.0
05/07/2017 09:00:57	1757.834538437346	3745.3037401921174	160.7608872374769	471.421077376411	66.0	83.0	13	13	1.0
05/07/2017 09:01:04	313.94909413945834	602.1100335650041	34.728241865741666	43.140068395650694	39.0	31.0	12	12	1.0
05/07/2017 09:01:06	1524.8274753550002	3571.719281233864	168.40994134494167	443.5721342189084	34.0	23.0	12	12	1.0
05/07/2017 09:01:07	1345.0967244421272	1086.2169216062898	30309.192303987566	100501.73791070994	39.0	33.0	11	11	1.0
05/07/2017 09:01:08	3878.723985737843	10891.001192420123	15.119336778328572	22.076635454506302	54.0	63.0	14	14	1.0
05/07/2017 09:01:09	1684.78931804725	1555.1145149171543	137.37152891751666	455.4511863294792	80.0	92.0	12	12	1.0
05/07/2017 09:01:10	1158.0160036793584	1111.8146014104693	6.7357763772000006	5.035332533190199	37.0	36.0	12	12	1.0
05/07/2017 09:01:12	2459.66964462025	5578.690083781959	497.9330189196584	1401.2991492667695	47.0	41.0	12	12	1.0
05/07/2017 09:01:13	32753.667511436786	87157.12502000223	112.85341052703333	255.8532402899221	40.0	39.0	15	15	1.0
05/07/2017 09:01:24	447.2747000199	1046.5056267595703	152013.41095812962	262729.3265522528	24.0	8.0	11	11	1.0
10/07/2017 07:47:19	3675.4411467966297	8693.37435223918	8.39128059832353	14.515774836184374	80.0	62.0	17	17	1.0
10/07/2017 07:49:22	55884.982892353066	213238.0035393301	9349.338342757896	39261.79593668717	419.0	801.0	18	18	1.0
10/07/2017 07:49:40	3298.2026375546848	3186.012519552422	5.848137477146153	4.586539125753148	463.0	413.0	13	13	1.0
10/07/2017 07:49:51	0.0	0.0	0.07186824718333333	).009060966492361792	2 32.0	6.0	12	12	1.0
10/07/2017 07:51:34	527.3426070956546	774.5648636626521	1.8177533506363637	3.685364249594321	115.0	121.0	11	11	1.0
10/07/2017 07:51:35	3835.569289429062	12970.676150583371	238.81029099184764	1079.6524662751356	124.0	125.0	21	21	1.0
10/07/2017 07:52:03	86490.24241836184	296096.3455201001	3606.569060543458	11498.297746357533	31.0	13.0	12	12	1.0
10/07/2017 07:52:04	111145.7264200151	368502.3898851681	4736.212246840909	14284.272525737908	28.0	21.0	11	11	1.0

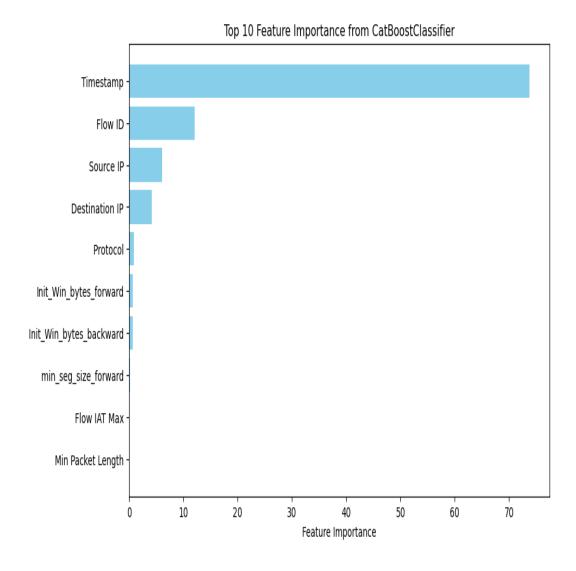
Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
10/07/2017 09:56:59	0.0	0.0	8.08473336456154	29.031246386944538	30.0	10.0	13	13	1.0
10/07/2017 09:57:38	319.1290360545625	608.7641073254208	1.22255966443125	3.14014737352126	118.0	107.0	16	16	1.0
10/07/2017 09:58:06	0.0	0.0	0.07110564409090908	).000719467489511473	3 22.0	0.0	11	11	1.0
10/07/2017 09:58:35	112.24030772300769	366.10448094119323	3666.4706777488764	13206.105933929979	49.0	27.0	13	13	1.0
10/07/2017 09:59:46	26288.774342003537	41421.844695256405	214.9543224113786	645.0458316205111	382.0	524.0	14	14	1.0
10/07/2017 09:59:48	23225.405400563413	83493.47723538372	47.50816406987334	137.4634070422867	79.0	66.0	15	15	1.0
10/07/2017 10:02:10	433647.49444110214	753184.3964050697	21351.958888426438	30291.25456449267	30.0	25.0	16	16	1.0
10/07/2017 10:02:40	640.5372933373944	1162.4526590234511	1.2097366794833333	1.7035193727486662	643.0	701.0	18	18	1.0
10/07/2017 10:03:41	16.440694679950003	41.79183853194136	2.5478917195571427	5.229824485943146	34.0	5.0	14	14	1.0
10/07/2017 10:03:46	45574.538498479626	156417.27481716985	69.948044004	231.66102515255702	128.0	97.0	15	15	1.0
10/07/2017 10:03:50	755.9407190107784	1819.3368264077133	3.008103810037838	4.5306994320007234	484.0	601.0	37	37	1.0
10/07/2017 10:03:54	0.0	0.0	378.2655976398857	1413.9837511602339	28.0	0.0	14	14	1.0
10/07/2017 10:04:58	1210.38783958685	2111.062609698704	4.1438489458	5.365521197764188	52.0	30.0	16	16	1.0
10/07/2017 10:06:00	1108.574815583657	1147.316051759243	1.8432689867857144	1.5542049840932626	776.0	791.0	14	14	1.0
10/07/2017 10:06:05	13154.149764246098	30471.018592887285	92.45374825829091	275.5907970364109	123.0	149.0	11	11	1.0
10/07/2017 10:06:09	6938.663369275575	11642.893916438048	24.120701594243748	39.988339023796826	141.0	134.0	16	16	1.0
10/07/2017 10:07:09	129.37214407026667	448.15825322764505	2.4588819238333333	5.237629979916055	27.0	6.0	12	12	1.0
10/07/2017 10:11:29	5576.503364941513	17743.946411835732	70.939892261475	22.865499928043217	152.0	255.0	16	16	1.0
10/07/2017 10:24:30	1310.8290041661091	3853.8668699193527	4.062206255345455	11.902402941309326	118.0	116.0	11	11	1.0
11/07/2017 01:09:00	1700.8235037355832	5602.90790481107	41.631797323375004	29.670190236265636	43.0	43.0	12	12	1.0
11/07/2017 01:11:10	1377.97997101121	4549.79878748023	5.903592429725	22.956517972946095	449.0	489.0	20	20	1.0

# **Safe Time Analysis**

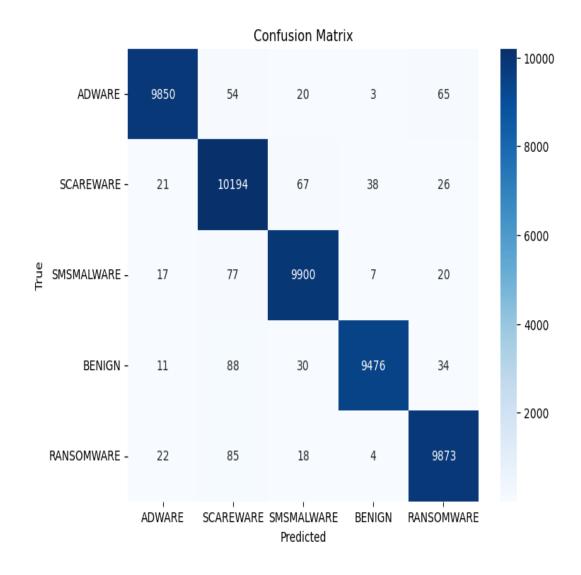
Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
07/07/2017 01:30:22	7815.984659268315	24799.6274200679	114.1036711083717	368.895781750587	170.0	166.0	59	0	0.0
07/07/2017 01:30:24	3968.5969813817337	8177.121179962125	1513.5539712874056	10882.226205670146	278.0	245.0	54	0	0.0

Timestamp	Flow Bytes/s Mean	Flow Bytes/s Std	Flow Packets/s Mean	Flow Packets/s Std	Total Fwd Packets	Total Backward Packets	Total Flows	Malicious Flows Count	Malicious Flows Percentage
07/07/2017 01:54:53	30052.772949146183	129581.63874316815	222.79880988612223	538.4534456067172	671.0	1304.0	54	0	0.0
07/07/2017 01:57:37	979.0083618599211	7141.524194618043	24.55109765611229	161.90106824408645	129.0	20.0	65	0	0.0
07/07/2017 01:58:37	2436.613108609132	14869.717061233832	44.340082498842314	258.84539665088437	353.0	270.0	53	0	0.0
07/07/2017 04:41:57	376.65668037977326	1993.783643870258	5.540714624189953	12.848503219485792	123.0	37.0	52	0	0.0
07/07/2017 06:37:34	9972.453734163224	32803.75896242267	110.34061947405525	392.8537061342726	361.0	357.0	52	0	0.0
07/07/2017 09:45:53	23896.47030084224	134611.4867038108	524.5694846851703	2160.982095701612	240.0	227.0	53	0	0.0
07/07/2017 12:32:25	649.9814908337648	3820.5019714696487	38.81776782837158	33.18481005624085	130.0	66.0	77	0	0.0
08/07/2017 03:52:19	43848.85043349633	274676.9602517892	1479.9867384960003	9994.084638732098	261.0	305.0	51	0	0.0
28/08/2017 05:11:28	2052.716153546239	12468.915985835103	13760.192212330074	35398.62635212174	86.0	59.0	69	0	0.0

# **Feature Importance**



### **Confusion Matrix**



## **Classification Report**

Category	precision	recall	f1-score	support
ADWARE	0.9928434633605483	0.9857886309047238	0.9893034700949128	9992.0
BENIGN	0.9710421032577634	0.9853083317224048	0.9781232009211284	10346.0
RANSOMWARE	0.9865470852017937	0.9879253567508233	0.987235739928201	10021.0

Category	precision	recall	f1-score	support
SCAREWARE	0.9945424013434089	.9945424013434089 0.98308953210914 0.9887828037773256		9639.0
SMSMALWARE	0.9855260531044121	0.9871025794841032	0.9863136863136863	10002.0
accuracy	0.98586	0.98586	0.98586	0.98586
macro avg	0.9861002212535853	0.985842886194239	0.9859517802070508	50000.0
weighted avg	0.9859341523342008	0.98586	0.9858771839171602	50000.0

#### **Classification Metrics**

