Supplementary material S1:Table S1: Albert V2 model's epoch test results

Epoch	TrainingLoss	TrainingAccuracy	ValidationLoss	ValidationAccuracy
1	8.9132	0.5483	7.1138	0.7267
2	8.8599	0.5523	7.0818	0.7285
3	8.6741	0.5562	7.1231	0.7299
4	8.6272	0.5603	6.9746	0.7340
5	8.6273	0.5642	6.8605	0.7348
6	8.2008	0.5695	6.8311	0.7390
7	8.2448	0.5737	6.6104	0.7409
8	8.3558	0.5788	6.6747	0.7438
9	8.0990	0.5839	6.3414	0.7454
10	8.0379	0.5889	6.3901	0.7492
11	7.6745	0.5949	6.2508	0.7522
12	7.6715	0.6007	6.2230	0.7558
13	7.4455	0.6077	5.8458	0.7594
14	7.2554	0.6136	6.0823	0.7612
15	7.1889	0.6201	5.8203	0.7658
16	7.0881	0.6270	5.6499	0.7713
17	6.9816	0.6345	5.5947	0.7731
18	6.6740	0.6410	5.5971	0.7780
19	6.5049	0.6489	5.2627	0.7821
20	6.3588	0.6552	4.9937	0.7866
21	6.1677	0.6649	5.1065	0.7900
22	6.1169	0.6718	5.0087	0.7948
23	5.7231	0.6796	4.7602	0.8005
24	5.5750	0.6877	4.5086	0.8035
25	5.5571	0.6960	4.4296	0.8070
26	5.2763	0.7041	4.3362	0.8123
27	5.0167	0.7125	4.1494	0.8168
28	4.7601	0.7202	4.0142	0.8206
29	4.6844	0.7278	3.9963	0.8242
30	4.4404	0.7367	3.6979	0.8300
31	4.3398	0.7435	3.6786	0.8333
32	4.1982	0.7515	3.3249	0.8380
33	4.0933	0.7586	3.3961	0.8432
34	3.7251	0.7658	3.1088	0.8460
35	3.5679	0.7728	3.0294	0.8497
36	3.5547	0.7798	3.2400	0.8538
37	3.2194	0.7862	2.8462	0.8580
38	3.2305	0.7935	2.7951	0.8604
39	3.0635	0.7986	2.5853	0.8637
40	2.8144	0.8060	2.4766	0.8683
41	2.8024	0.8100	2.4282	0.8705
42	2.6654	0.8160	2.2012	0.8746
43	2.4508	0.8214	2.2582	0.8753
44	2.3920	0.8272	2.0567	0.8800
45	2.2311	0.8293	1.9685	0.8814
46	2.2441	0.8352	1.6824	0.8858
47	2.0909	0.8405	1.8571	0.8868
48	1.8184	0.8431	1.7989	0.8904
49	2.0046	0.8484	1.7830	0.8917
50	1.6955	0.8509	1.8761	0.8933
51	1.7952	0.8545	1.4107	0.8963
52	1.6851	0.8582	1.5615	0.8950
53	1.6109	0.8600	1.4347	0.8988

54	1.4502	0.8639	1.5850	0.8991
55	1.6237	0.8667	1.5050	0.9018
56	1.5776	0.8691	1.1884	0.9018
57	1.2393	0.8701	1.3812	0.9040
58	1.2399	0.8728	1.1882	0.9062
59	1.3019	0.8743	1.2285	0.9060
60	1.2745	0.8772	1.1041	0.9081
61	1.2009	0.8788	1.3027	0.9093
62	1.1965	0.8797	1.1577	0.9082
63	1.1374	0.8811	0.9974	0.9086
64	0.9790	0.8829	1.1025	0.9096
65	0.9271	0.8836	1.0210	0.9103
66	1.0092	0.8853	1.0537	0.9120
67	0.8528	0.8857	0.7811	0.9137
68	1.1306	0.8882	0.9871	0.9131
69	0.8895	0.8886	0.9796	0.9150
70	0.8807	0.8895	0.8539	0.9128
71	0.8821	0.8898	0.8844	0.9163
72	0.8327	0.8905	0.9427	0.9160
73	0.8307	0.8906	0.9938	0.9143
74	0.7431	0.8926	0.9479	0.9156
75	0.6566	0.8927	1.0664	0.9163
76	0.9937	0.8941	1.0397	0.9161
77	0.9587	0.8943	0.8917	0.9165
78	0.6988	0.8951	0.9215	0.9166
79	0.6772	0.8956	0.8600	0.9170
80	0.8919	0.8952	0.9185	0.9177
81	0.7672	0.8959	0.8835	0.9186
82	0.7051	0.8959	0.8668	0.9193
83	0.7711	0.8965	0.8283	0.9182
84	0.5831	0.8965	0.8723	0.9175
85	0.8203	0.8969	0.7413	0.9182
86	0.5005	0.8971	0.8114	0.9178
87	0.7050	0.8971	0.9120	0.9173
88	0.8892	0.8975	0.8992	0.9188
89	0.7318	0.8980	0.8076	0.9190
90	0.7573	0.8977	0.9207	0.9190
91	0.8182	0.8979	0.9206	0.9193
92	0.5354	0.8975	0.8532	0.9188
93	0.8340	0.8974	0.7876	0.9204
94	0.6655	0.8991	0.9389	0.9193
95	0.6850	0.8987	0.7773	0.9186
96	0.6795	0.8973	0.7187	0.9184
97	0.4990	0.8987	0.9173	0.9191
98	0.6833	0.8999	0.7658	0.9183
99	0.6437	0.8984	0.8839	0.9202
100	0.5959	0.8987	0.7998	0.9195

Supplementary material S2: Table S2: ALBERT-WPD Model- epoch testresult

Epoch	TrainingLoss	TrainingAccuracy	ValidationLoss	ValidationAccuracy
1	8.9119	0.4698	8.0828	0.7316
2	8.9844	0.4750	7.9285	0.7333
3	8.8227	0.4803	7.8841	0.7367
4	8.6324	0.4864	7.7324	0.7382
5	8.3830	0.4898	7.7751	0.7424
6	8.2025	0.4984	7.5853	0.7433
7	8.1945	0.5026	7.4967	0.7477
8	8.0811	0.5114	7.2475	0.7517
9	7.8556	0.5205	7.1796	0.7536
10	7.8761	0.5260	7.1143	0.7572
11	7.5649	0.5354	6.8520	0.7611
12	7.5416	0.5431	6.8350	0.7655
13	7.3648	0.5507	6.7429	0.7684
14	7.4539	0.5615	6.6571	0.7755
15	7.1662	0.5713	6.4415	0.7793
16	6.9362	0.5794	6.2128	0.7821
17	6.9964	0.5904	5.9915	0.7879
18	6.4131	0.5993	5.9830	0.7916
19	6.5308	0.6122	5.9366	0.7961
20	6.1721	0.6228	5.5838	0.8029
21	6.0237	0.6349	5.4850	0.8052
22	6.0267	0.6434	5.3805	0.8126
23	5.8605	0.6553	5.1451	0.8164
24	5.3598	0.6695	4.9862	0.8216
25	5.3881	0.6801	4.8321	0.8289
26	5.2633	0.6921	4.6822	0.8320
27	4.9250	0.7025	4.5811	0.8364
28	4.8366	0.7140	4.3914	0.8461
29	4.5300	0.7239	4.2158	0.8485
30	4.4507	0.7373	4.0630	0.8537
31	4.2257	0.7467	3.9336	0.8587
32	4.0605	0.7564	3.6274	0.8622
33	3.7660	0.7701	3.6043	0.8685
34	3.7706	0.7790	3.4221	0.8723
35	3.5261	0.7892	3.1759	0.8786
36	3.2047	0.7979	3.0495	0.8824
37	3.0051	0.8089	2.8704	0.8871
38	2.9287	0.8179	2.9320	0.8904
39	2.7191	0.8246	2.7472	0.8944
40	2.7251	0.8334	2.8090	0.8981
41	2.7232	0.8433	2.6322	0.9014
42	2.5138	0.8498	2.1563	0.9072
43	2.3698	0.8590	2.3578	0.9088
44	2.1441	0.8655	2.0495	0.9135
45	2.1757	0.8719	1.8738	0.9156
46	1.9608	0.8773	1.8503	0.9187
47	2.0549	0.8828	1.9796	0.9191
48	1.6331	0.8904	1.7360	0.9222
49	1.7108	0.8956	1.6805	0.9270
50	1.6299	0.9002	1.6900	0.9283
51	1.3581	0.9052	1.6393	0.9310
52	1.4869	0.9090	1.3917	0.9327
53	1.4743	0.9138	1.4413	0.9336
54	1.3935	0.9168	1.3674	0.9368
55	1.3182	0.9215	1.2883	0.9367

56	1.1673	0.9253	1.3316	0.9394
57	1.2457	0.9276	1.0772	0.9415
58	1.1552	0.9297	1.0384	0.9421
59	0.9996	0.9357	1.0567	0.9434
60	0.9757	0.9357	1.1792	0.9452
61	1.0357	0.9404	1.0453	0.9469
62	1.0295	0.9404	0.9050	0.9453
63	0.8720	0.9423	1.0860	0.9485
64	1.0006	0.9471	0.9220	0.9484
65	0.8116	0.9492	0.9460	0.9506
66	0.8640	0.9478	0.7590	0.9504
67	0.8671	0.9518	0.9127	0.9513
68	0.7988	0.9529	0.9285	0.9504
69	0.7423	0.9524	0.9382	0.9512
70	0.8386	0.9547	0.9410	0.9518
71	0.7895	0.9541	0.7435	0.9514
72	0.8391	0.9552	0.7952	0.9523
73	0.6645	0.9573	0.7101	0.9551
74	0.7565	0.9591	0.7284	0.9546
75	0.7085	0.9612	0.6596	0.9562
76	0.7647	0.9612	0.7282	0.9566
77	0.6054	0.9615	0.5795	0.9566
78	0.2850	0.9619	0.8736	0.9546
79	0.4918	0.9625	0.5488	0.9572
80	0.7590	0.9625	0.7488	0.9574
81	0.6304	0.9642	0.7932	0.9582
82	0.5735	0.9616	0.7182	0.9566
83	0.5967	0.9633	0.8121	0.9568
84	0.4466	0.9644	0.4678	0.9581
85	0.5520	0.9653	0.6455	0.9577
86	0.5542	0.9653	0.5020	0.9591
87	0.4973	0.9656	0.5226	0.9553
88	0.6753	0.9674	0.6072	0.9576
89	0.5399	0.9666	0.4633	0.9604
90	0.4760	0.9668	0.6624	0.9597
91	0.4986	0.9668	0.6976	0.9598
92	0.5084	0.9668	0.4213	0.9588
93	0.5676	0.9673	0.5675	0.9576
94	0.4751	0.9679	0.7623	0.9606
95	0.4879	0.9694	0.5469	0.9603
96	0.3811	0.9684	0.6258	0.9588
97	0.6407	0.9670	0.7636	0.9580
98	0.5452	0.9682	0.5541	0.9586
99	0.4314	0.9682	0.7347	0.9583
100	0.6164	0.9672	0.7815	0.9588

Supplementary material S3: Table S3: RNN Model- epoch testresult

Epoch	Time (in s.ms/step)	TrainingAccuracy	TrainingLoss	ValidationAccuracy	ValidationLoss
1	**8s** 2ms	0.6092	0.6757	0.5793	0.6931
2	**7s** 2ms	0.5978	0.6765	0.5732	0.6943
3	**7s** 2ms	0.6101	0.6709	0.5701	0.6904
4	**7s** 2ms	0.6123	0.6697	0.5701	0.6903
5	**7s** 2ms	0.6171	0.6676	0.5915	0.6870
6	**7s** 2ms	0.5940	0.6781	0.5915	0.6856
7	**7s** 2ms	0.6208	0.6648	0.5701	0.6876
8	**7s** 2ms	0.5956	0.6763	0.5854	0.6830

9	**7s** 2ms	0.6138	0.6682	0.5671	0.6845
10	**7s** 2ms	0.5988	0.6746	0.5915	0.6814
11	**7s** 2ms	0.6072	0.6710	0.5945	0.6799
12	**7s** 2ms	0.6169	0.6668	0.5701	0.6830
13	**7s** 2ms	0.6069	0.6712	0.5915	0.6803
14	**7s** 2ms	0.6192	0.6665	0.6037	0.6772
15	**7s** 2ms	0.6023	0.6734	0.6006	0.6766
16	**7s** 2ms	0.6125	0.6678	0.6006	0.6762
17	**7s** 2ms	0.6150	0.6680	0.5976	0.6759
18	**7s** 2ms	0.6136	0.6687	0.5915	0.6770
19	**7s** 2ms	0.6248	0.6626	0.5732	0.6839
20	**7s** 2ms	0.5952	0.6761	0.6098	0.6734
21	**7s** 2ms	0.6156	0.6675	0.6006	0.6744
22	**7s** 2ms	0.6067	0.6714	0.6037	0.6737
23	**7s** 2ms	0.6162	0.6673	0.6067	0.6734
24	**7s** 2ms	0.6093	0.6697	0.6006	0.6742
25	**7s** 2ms	0.6130	0.6690	0.6128	0.6714
26	**7s** 2ms	0.5972	0.6753	0.6189	0.6713
27	**7s** 2ms	0.6153	0.6673	0.6098	0.6717
28	**7s** 2ms	0.6226	0.6643	0.6128	0.6724
29	**7s** 2ms	0.6038	0.6714	0.6159	0.6705
30	**7s** 2ms	0.6019	0.6727	0.6189	0.6696
31	**7s** 3ms	0.6039	0.6732	0.6189	0.6688
32	**7s** 2ms	0.6082	0.6700	0.6159	0.6706
33	**7s** 2ms	0.6192	0.6657	0.6189	0.6686
34	**7s** 2ms	0.6162	0.6668	0.6189	0.6683
35	**7s** 3ms	0.6089	0.6702	0.6189	0.6678
36	**7s** 2ms	0.6225	0.6633	0.6189	0.6682
37	**7s** 2ms	0.6134	0.6678	0.6189	0.6685
38	**7s** 2ms	0.6032	0.6723	0.6189	0.6688
39	**7s** 2ms	0.6101	0.6692	0.6220	0.6672
40	**7s** 2ms	0.6172	0.6661	0.6220	0.6670
41	**7s** 2ms	0.6199	0.6650	0.6189	0.6701
42	**7s** 2ms	0.5963	0.6744	0.6220	0.6665
43	**7s** 2ms	0.6138	0.6680	0.6189	0.6682
44	**7s** 2ms	0.6131	0.6684	0.6220	0.6664
45	**7s** 2ms	0.6060	0.6709	0.6189	0.6738
46	**7s** 2ms	0.5951	0.6749	0.6220	0.6672
47	**7s** 2ms	0.6073	0.6709	0.6220	0.6666
48	**15s** 7ms	0.5931	0.6766		

Supplementary material S4: Table S4: CNN Model- epoch testresult

Epoch	Time (in s.ms/step)	TrainingAccuracy	TrainingLoss	ValidationAccuracy	ValidationLoss
1	**5s** 2ms	0.5900	0.6746	0.6799	0.6257
2	**4s** 1ms	0.6582	0.6333	0.7134	0.5914
3	**4s** 1ms	0.6867	0.5987	0.6555	0.6083
4	**4s** 1ms	0.6908	0.5886	0.7134	0.5556
5	**4s** 1ms	0.7122	0.5699	0.6921	0.5744
6	**4s** 1ms	0.7107	0.5877	0.7104	0.5634
7	**4s** 1ms	0.7257	0.5590	0.6463	0.5872
8	**4s** 1ms	0.7157	0.5634	0.6738	0.5788
9	**4s** 1ms	0.7267	0.5549	0.6921	0.5694
10	**4s** 1ms	0.7144	0.5639	0.6402	0.6087
11	**4s** 1ms	0.7184	0.5536	0.7043	0.5607
12	**4s** 1ms	0.7309	0.5467	0.7256	0.5679
13	**4s** 1ms	0.7160	0.5476	0.6829	0.5731
14	**4s** 1ms	0.7076	0.5572	0.6890	0.5807

15	**0s** 3ms	0.7362	0.5356		