Supplementary Tables and Figures List

Table S1. Changing convolution layer and dense layer are to evaluate the ablation study.

Case study 1: Changing layers					
Configuration No.	No. of convolution layer	No. of dense layer	Train accuracy (%)	Val accuracy (%)	Finding
1	7	5	0.6187	0.6500	Lowest accuracy
2	6	4	0.9406	0.6750	Lowest accuracy
3	5	3	0.9563	0.9500	Modest accuracy
4	4	3	0.9781	0.9500	Modest accuracy
5	3	2	0.9844	0.8625	Modest accuracy
6	2	3	0.9688	0.9875	Highest accuracy

Table S2. Changing the activation function to evaluate the ablation study.

Case study 3: Changing activation function				
Configuration No.	Activation function	Train accuracy (%)	Val accuracy (%)	Finding
1	PReLU	0.6187	0.6500	Accuracy dropped
2	Leaky ReLu	0.6375	0.6875	Accuracy dropped
3	Sigmoid	0.9563	0.7750	Accuracy dropped
4	Tanh	0.8938	0.9250	Accuracy dropped
5	Relu	0.9688	0.9875	Highest accuracy

Table S3. Changing **the** dropout value to evaluate the ablation study.

Case study 4: changing Dropout value				
Configuration No.	Dropout value	Train accuracy (%)	Val accuracy (%)	Finding
1	0.2	0.9563	0.8875	Accuracy dropped
2	0.15	0.9750	0.9000	Accuracy dropped
3	0.05	0.9812	0.9250	Accuracy dropped
4	0.1	0.9688	0.9875	Highest accuracy

Table S4. Changing dense layers to evaluate the ablation study.

Case study 1: Changing layers				
Configuration No.	No. of dense layer	Train accuracy (%)	Val accuracy (%)	Finding
1	5	0.6187	0.6500	Lowest accuracy
2	4	0.7148	0.9525	Modest accuracy
3	3	0.9812	0.9625	Highest accuracy

Table S5. Changing the activation function to evaluate the ablation study.

Case study 2: Changing activation function				
Configuration No.	Activation function	Train accuracy (%)	Val accuracy (%)	Finding
1	Leaky ReLu	0.3812	0.3500	Accuracy dropped
2	PReLU	0.4062	0.3875	Accuracy dropped
3	sigmoid	0.6187	0.6500	Accuracy dropped
4	Tanh	0.7094	0.7125	Accuracy dropped
5	Relu	0.9812	0.9625	Highest accuracy

Table S6. Changing kernel initializer to evaluate the ablation study.

Case study 3: Changing kernal initializer				
Configuration No.	Kernel initializer	Train accuracy (%)	Val accuracy (%)	Finding
1	he_normal	0.9062	0.9250	Accuracy dropped
2	normal	0.9344	0.9500	Accuracy dropped
3	uniform	0.9812	0.9625	Highest accuracy

Table S7. Changing the optimizer to evaluate the ablation study.

Case study 4: Changing optimizer				
Configuration No.	Optimizer	Train accuracy (%)	Val accuracy (%)	Finding
1	nadam	0.6187	0.6500	Accuracy dropped
2	RMSprop	0.9250	0.9500	Accuracy dropped
3	adamax	0.9719	0.9500	Accuracy dropped
4	adam	0.9812	0.9625	Highest accuracy

Table S8. Changing dense layers to evaluate the ablation study.

Case study 1: Changing layers						
Configuration No.	No. of LSTM layer	No. of dense layer	No. of dropout layer	Train accuracy (%)	Val accuracy (%)	Finding
1	3	2	3	0.5716	0.6125	Lowest accuracy
2	4	3	6	0.6500	0.7750	Lowest accuracy
3	4	2	5	0.6438	0.8000	Lowest accuracy
4	4	2	3	0.7500	0.8250	Lowest accuracy
5	4	1	4	0.9781	0.9750	Highest accuracy

Table S9. Changing the activation function to evaluate the ablation study.

Case study 2: Changing activation function				
Configuration No.	Activation function	Train accuracy (%)	Val accuracy (%)	Finding
1	Sigmoid	0.5188	0.6500	Accuracy dropped
2	Leaky ReLu	0.6156	0.7000	Accuracy dropped
3	PReLU	0.7500	0.8250	Accuracy dropped
4	Tanh	0.7719	0.8250	Accuracy dropped
5	Relu	0.9781	0.9750	Highest accuracy

Table S10. Changing kernel initializer to evaluate the ablation study.

Case study 3: Changing kernal initializer				
Configuration No.	Kernal initializer	Train accuracy (%)	Val accuracy (%)	Finding
1	he_normal	0.8281	0.3750	Accuracy dropped
2	normal	0.7156	0.7875	Accuracy dropped
3	uniform	0.9781	0.9750	Highest accuracy

Table S11. Changing the optimizer to evaluate the ablation study.

Case study 4: Changing optimizer				
Configuration No.	Optimizer	Train accuracy (%)	Val accuracy (%)	Finding
1	nadam	0.6687	0.6625	Accuracy dropped
2	adamax	0.7563	0.7750	Accuracy dropped
3	RMSprop	0.7656	0.8250	Accuracy dropped
4	adam	0.9781	0.9750	Highest accuracy

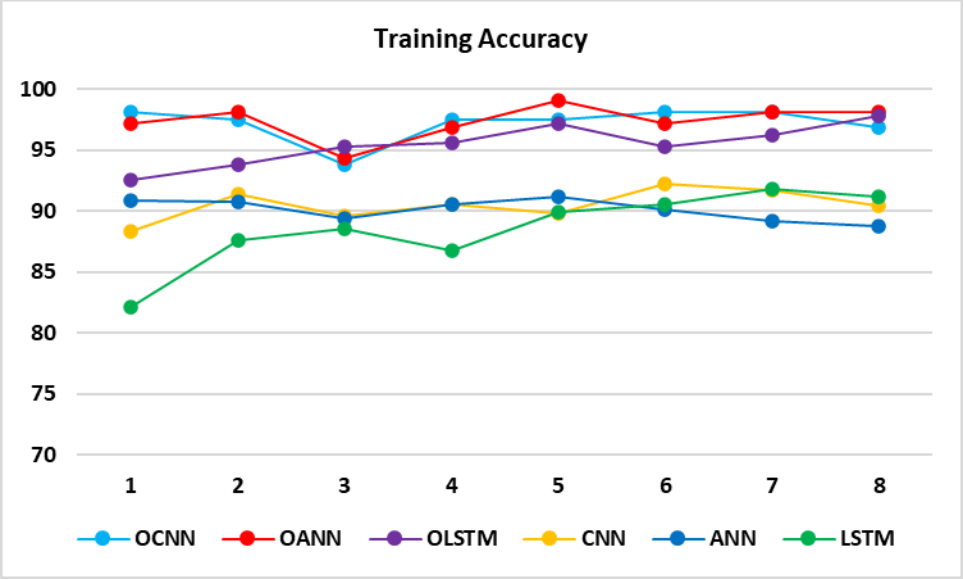

Figure S1. Comparison of training accuracy of the models.

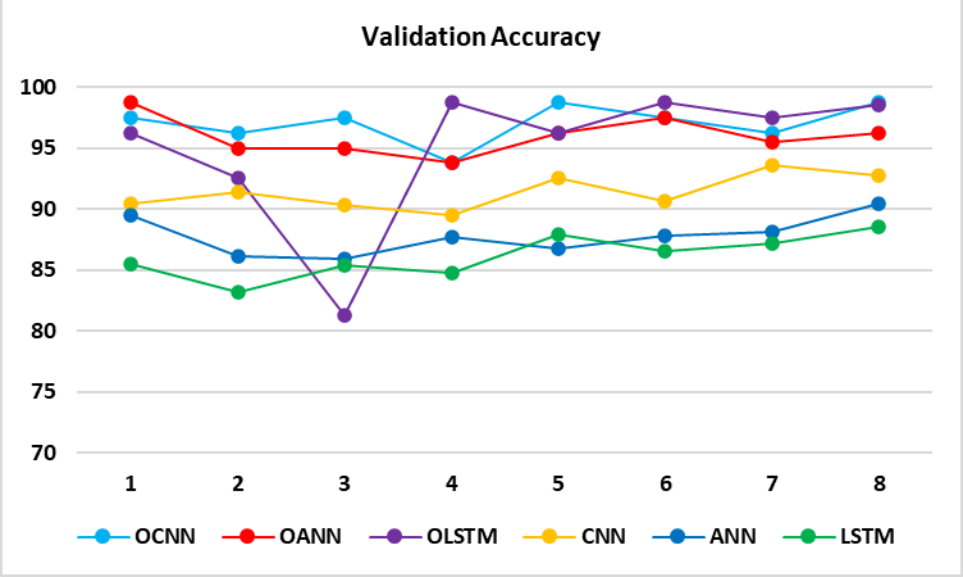

Figure S2. Comparison of validation accuracy of the models.

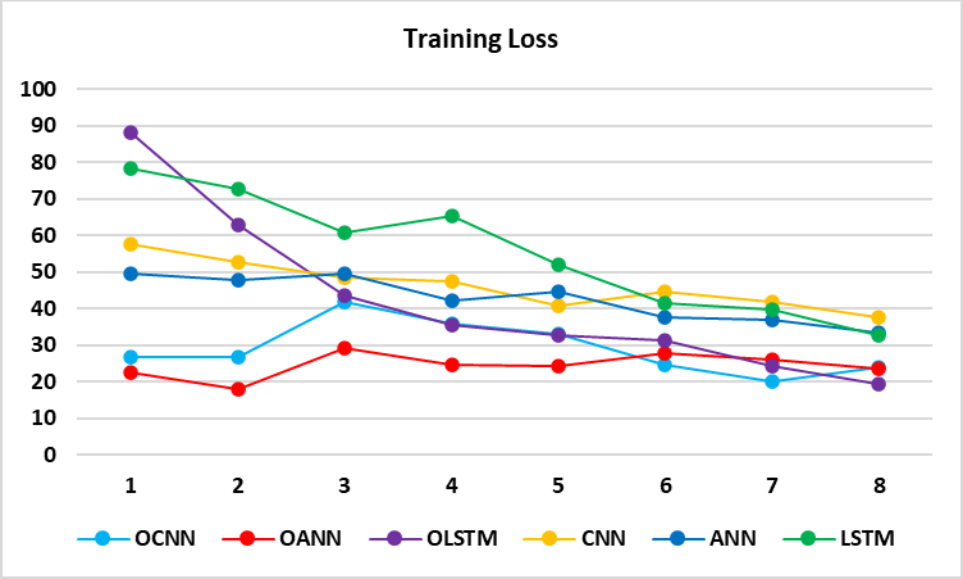

Figure S3. Comparison of training loss of the models.

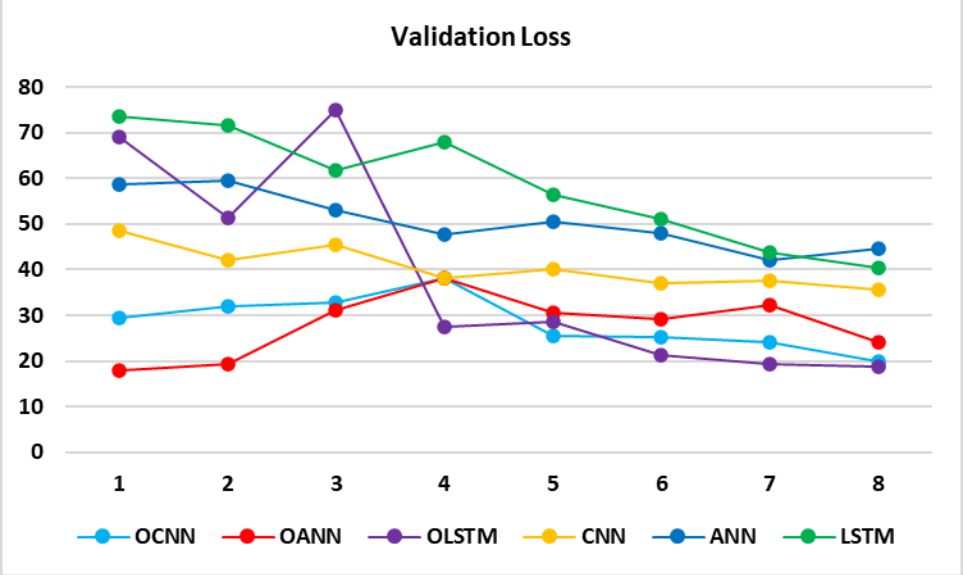

Figure S4. Comparison of validation loss of the models.