

## Parameter used in Deep learning

### GRU(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.20 95.399 93.008 94.188
0.001	30	100	94.03 95.384 92.678 94.011
0.001	50	100	94.10 95.513 92.678 94.074
0.01	25	100	94.13 95.087 93.206 94.137
0.1	25	100	<b>94.83</b> 95.087 93.206 94.137
0.1	25	200	94.20 94.496 93.997 94.246
0.1	25	150	94.66 94.496 93.997 94.246

### BiGRU(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall
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			f1-score
0.001	25	100	94.100 95.637 92.546 94.066
0.001	30	100	94.000 95.380 92.612 93.976
0.001	50	100	93.767 95.235 92.282 93.735
0.01	25	100	<b>94.467</b> 95.732 93.206 94.452
0.1	25	100	91.767 87.971 96.966 92.250
0.01	25	200	93.967 94.176 93.865 94.020
0.01	25	150	93.867 95.000 92.744 93.858

### BiLSTM(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.200 94.853 93.602

			94.223
0.001	30	100	94.233 95.525 92.942 94.216
0.001	50	100	93.967 95.316 92.612 93.944
0.01	30	100	93.433 90.785 96.834 93.712
0.1	30	100	94.467 94.291 94.789 94.539
0.1	30	200	<b>94.767</b> 94.675 94.987 94.830
0.1	30	150	94.533 94.947 94.195 94.570

### LSTM(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.467 95.485 93.470 94.467
0.001	30	100	94.400 95.602 93.206 94.389

0.001	50	100	94.033 95.138 92.942 94.027
0.01	25	100	94.167 95.273 93.074 94.161
0.1	25	100	93.967 92.816 95.449 94.114
0.01	25	200	94.400 94.459 94.459 94.459
0.01	25	150	<b>94.633</b> 95.378 93.931 94.649

### RNN(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.133 95.516 92.744 94.110
0.001	30	100	93.733 95.417 92.018 93.687
0.001	50	100	93.567 95.092 92.018 93.530

0.01	25	100	94.300 94.983 93.668 94.321
0.1	25	100	93.700 97.427 89.908 93.516
0.01	25	200	93.867 94.223 93.602 93.911
0.01	25	150	<b>94.400</b> 94.284 94.657 94.470

### BiRNN(FastText)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	<b>94.267</b> 95.467 93.074 94.255
0.001	30	100	94.067 95.325 92.810 94.051
0.001	50	100	93.933 95.374 92.480 93.905
0.01	25	100	92.033 97.756 86.214

			91.623
0.1	25	100	82.133 99.696 64.842 78.577
0.001	25	200	94.033 95.694 92.348 93.991
0.001	25	150	93.767 95.420 92.084 93.723

### RNN(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	93.533 96.946 90.040 93.365
0.001	30	100	93.533 96.549 90.435 93.392
0.001	50	100	93.133 97.122 89.050 92.911
0.01	30	100	93.567 97.216 89.842 93.384
0.1	30	100	93.367 97.545 89.116 93.140

0.01	30	200	<b>94.733</b> 94.907 94.657 94.782
0.01	30	150	93.900 97.102 90.633 93.756

### BiRNN(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.033 96.585 91.425 93.934
0.001	30	100	93.900 97.236 90.501 93.748
0.001	50	100	93.600 96.751 90.369 93.452
0.01	25	100	91.833 87.537 97.757 92.365
0.1	25	100	83.133 97.373 68.470 80.403
0.001	25	200	<b>94.433</b> 93.657 95.449 94.544
0.001	25	150	93.100 97.462

			88.654 92.850
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## LSTM(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	93.367 90.573 96.966 93.660
0.001	30	100	94.300 96.669 91.887 94.217
0.001	50	100	93.533 96.946 90.040 93.365
0.01	25	100	94.433 92.130 97.296 94.642
0.1	25	100	94.200 91.781 97.230 94.427
0.01	25	200	<b>94.833</b> 94.390 94.916 94.894
0.01	25	150	92.000 98.115 85.818 91.555



## BiLSTM(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.733 94.263 95.383 94.820
0.001	30	100	93.400 97.071 89.644 93.210
0.001	50	100	94.233 96.215 92.216 94.173
0.01	25	100	94.733 94.789 94.789 94.789
0.1	25	100	<b>94.867</b> 95.159 94.657 94.907
0.1	25	200	93.800 97.704 89.842 93.608
0.1	25	150	94.100 96.396 91.755 94.018

## GRU(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.333 96.159 92.480 94.284
0.001	30	100	93.633 97.423 89.776 93.443
0.001	50	100	93.933 96.513 91.293 93.831
0.01	25	100	94.300 96.864 91.689 94.205
0.1	25	100	94.000 97.242 90.699 93.857
0.001	25	200	<b>94.733</b> 94.907 94.657 94.782
0.001	25	150	93.833 97.165 90.435 93.680

### BiGRU(Glove)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	94.400 96.228 92.546

			94.351
0.001	30	100	94.633 95.623 93.668 94.635
0.001	50	100	93.967 95.316 92.612 93.944
0.01	30	100	94.733 95.693 93.799 94.737
0.1	30	100	94.367 95.354 93.404 94.369
0.01	30	200	94.367 95.111 93.668 94.384
0.01	30	150	<b>94.733</b> 94.789 94.789 94.789

## RNN(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	<b>94.133</b> 95.640 92.612 94.102
0.001	30	100	92.633 97.091 88.061 92.356

0.001	50	100	93.533 95.776 91.227 93.446
0.01	25	100	93.567 95.906 91.161 93.473
0.1	25	100	90.800 97.988 83.509 90.171
0.001	25	200	92.533 89.247 96.900 92.916
0.001	25	150	93.333 96.866 89.710 93.151

### BiRNN(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	92.033 97.543 86.412 91.640
0.001	30	100	94.067 95.697 92.414 94.027
0.001	50	100	93.433 96.674 90.106 93.274
0.01	30	100	<b>94.167</b> 96.595 91.689

			94.078
0.1	30	100	87.300 99.305 75.396 85.714
0.001	30	200	93.567 96.749 90.303 93.415
0.001	30	150	93.167 96.325 89.908 93.006

### LSTM(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	93.533 96.159 90.831 93.419
0.001	30	100	93.200 96.991 89.314 92.995
0.001	50	100	93.733 96.434 90.963 93.618
0.01	50	100	<b>94.600</b> 95.073 94.195 94.632
0.1	50	100	94.067 96.266 91.821 93.991
0.001	50	200	94.533 95.553

			93.536 94.533
0.001	50	150	94.467 95.060 93.931 94.492

### BiLSTM(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	93.233 96.527 89.842 93.065
0.001	30	100	93.367 96.802 89.842 93.192
0.001	50	100	93.500 96.286 90.633 93.374
0.01	50	100	94.700 95.445 93.997 94.716
0.1	50	100	<b>94.767</b> 96.130 93.404 94.747
0.1	50	200	92.333 88.365 97.691 92.794
0.1	50	150	94.733 94.437 95.185 94.809

### GRU(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
0.001	25	100	92.433 97.216 87.533 92.121
0.001	30	100	94.167 95.212 93.140 94.165
0.001	50	100	93.667 95.787 91.491 93.590
0.01	30	100	<b>94.500</b> 95.673 93.338 94.491
0.1	30	100	50.533 50.533 100.000 67.139
0.01	30	200	94.433 94.639 94.327 94.483
0.01	30	150	94.267 95.283 93.272 94.267

### BiGRU(Word2vec)

Learning Rate	Training Epochs	Training Batch size	accuracy precision recall f1-score
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0.001	25	100	92.533 97.361 87.599 92.222
0.001	30	100	94.133 95.209 93.074 94.129
0.001	50	100	93.267 96.333 90.106 93.115
0.01	30	100	94.533 95.308 93.799 94.548
0.1	30	100	92.533 97.500 87.467 92.211
0.01	30	200	94.166 95.581 92.744 94.141
0.01	30	150	<b>94.700</b> 95.814 93.602 94.695