CNN-model

\*This model gives plots, after initial test with epochs = 10, epochs = 6 was determined as the optimal epochs size.

Vocab\_size fit to data, maxlen = 100, num\_filters = 128, embedding\_dim = 100, kernel\_size =5.

|  |  |  |  |
| --- | --- | --- | --- |
| Train Accuracy | Test Accuracy | Batch Size | Epochs |
| 99.70 | 83.35 | 10 | 10\* |
| 98.29 | 82.79 | 16 | 6 |
| 99.75 | 83.47 | 16 | 6 |
| 99.71 | 82.46 | 100 | 6 |

Using maxlen and vocab size parameters fit to the data, num\_filters = 128, embedding\_dim = 100, kernel\_size =5.

|  |  |  |  |
| --- | --- | --- | --- |
| Train Accuracy | Test Accuracy | Batch Size | Epochs |
| 99.87 | 87.76 | 16 | 6 |
|  |  |  |  |

CNN-model with hyper-parametrization

Parameters: ‘vocab\_size’ = 5000, ‘maxlen’ = 100, ‘embedding\_dim’ = 50.

Fitting 10 folds for 5 iterations for the grid search.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Train Accuracy | Test Accuracy | Batch Size | Epochs | num\_filters | kernel\_size |
| 82.44 | 81.82 | 8 | 6 | 32 | 5 |
| 82.90 | 83.37 | 16 | 6 | 128 | 3 |
| 83.21 | 82.85 | 100 | 6 | 32 | 3 |

Using parameters fit to the data (maxlen and vocab size of data)

Fitting 10 folds for 5 iterations for the grid search.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Train Accuracy | Test Accuracy | Batch Size | Epochs | num\_filters | kernel\_size | embedding\_dim |
| 82.44 | 81.82 | 8 | 6 | 32 | 5 |  |
| 82.90 | 83.37 | 16 | 6 | 128 | 3 |  |
| 83.21 | 82.85 | 100 | 6 | 32 | 3 |  |

Stacked CNN-model

Using maxlen and vocab size parameters fit to the data, num\_filters = 32, embedding\_dim = 100, kernel\_size is 4, 6, 8 in each channel respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| Train Accuracy | Test Accuracy | Batch Size | Epochs |
| 99.7701 | 87.9620 | 16 | 4 |
| 99.8568 | 89.1150 | 100 | 4 |
| 99.9133 | 89.3862 | 32 | 6 |
| 99.9209 | 88.8098 | 100 | 6 |
| 99.6270 | 86.7752 | 16 | 6 |