1. **Changing Embeding dimension**

Optimizer : Adam

Filter size : 3,4,5

Number of filters 128

Drop out prob = 0.5

Table: Accuracy

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Embeding dimension | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 128 | 0.484 | 0.531 | 0.421 | 0.468 | 0375 | 0.468 | 0.5 | 0.45 | 0.57 | 0.54 |
| 150 | 0.42 | .42 | .45 | .5 | .46 | .53 | .51 | .53 | .57 | .57 |
| 200 | .45 | .5 | .39 | .48 | .42 | .5 | .5 | .45 | .51 | .46 |
| 250 | .57 | .45 | .43 | .5 | .56 | .51 | .56 | .43 | .57 | .56 |

Table: Loss

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Embeding dimension | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 128 | 2.6 | 1.8 | 2.3 | 1.8 | 1.92 | 2.4 | 2.5 | 2.3 | 1.5 | 1.9 |
| 150 | 3.3 | 2.7 | 2.3 | 2.7 | 2.7 | 2.3 | 2.4 | 2.5 | 1.9 | 1.29 |
| 200 | 2.9 | 2.4 | 3.4 | 2.8 | 2.4 | 2.4 | 2.1 | 2.7 | 2.2 | 2.9 |
| 250 | 0.57 | 3.03 | 3.15 | 3.09 | 2.5 | 2.6 | 2.5 | 3.6 | 2.7 | 2.6 |

Conclustion : the best result was obtained when the Embeding dimension was 150

1. **Changing filter size**

Optimizer : Adam

Embeding dimension 150

Number of filters 128

Drop out prob = 0.5

Table : Accuracy

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Filter size | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 3,4,5 | 0.42 | .42 | .45 | .5 | .46 | .53 | .51 | .53 | .57 | .57 |
| 4,5,6 | .43 | .53 | .59 | .42 | .57 | .5 | .61 | .48 | .54 | .62 |
| 5,6,7 | .54 | .51 | .40 | .48 | .46 | .46 | .5 | .46 | .56 | .51 |
| 6,7,8 | .56 | .53 | .64 | .56 | .57 | .68 | .53 | .56 | .57 | .46 |

Table : Loss

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Filter size | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 3,4,5 | 3.3 | 2.7 | 2.3 | 2.7 | 2.7 | 2.3 | 2.4 | 2.5 | 1.9 | 1.29 |
| 4,5,6 | 3.4 | 2.1 | 1.7 | 2.6 | 1.9 | 2.1 | 2.14 | 2.56 | 2.53 | 1.96 |
| 5,6,7 | 2.2 | 2.4 | 2.8 | 2.9 | 2.3 | 2.02 | 2.65 | 2.57 | 2.21 | 2.7 |
| 6,7,8 | 3.1 | 2.5 | 1.9 | 2.7 | 3.1 | 1.8 | 2.08 | 2.17 | 1.8 | 2.5 |

Conclusion : the best result was obtained for filter size 3,4,5

1. **Number of filters**

Optimizer : Adam

Embeding dimension 150

Filter size 3,4,5

Drop out prob = 0.5

Table: Accuracy

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of filter | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 128 | 0.42 | .42 | .45 | .5 | .46 | .53 | .51 | .53 | .57 | .57 |
| 150 | .53 | .43 | .51 | .46 | .51 | .53 | .42 | .39 | .53 | .56 |
| 200 | .54 | .51 | .62 | .51 | .46 | .60 | .56 | .54 | .53 | .46 |

Table : Loss

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of filter | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 128 | 3.3 | 2.7 | 2.3 | 2.7 | 2.7 | 2.3 | 2.4 | 2.5 | 1.9 | 1.29 |
| 150 | 2.08 | 2.49 | 1.52 | 2.58 | 1.81 | 1.7 | 2.4 | 2.03 | 1.7 | 1.6 |
| 200 | 2.7 | 1.6 | 1.7 | 2.4 | 2.46 | 1.98 | 1.99 | 2.25 | 2.17 | 2.28 |

Conclusion : The best result is obtained as the number of filters is small

1. **Drop out prob**

Optimizer : Adam

Embeding dimension 150

Filter size 3,4,5

Number of filters = 128

Table : Accuracy

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Drop out prob | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 0.5 | 0.42 | .42 | .45 | .5 | .46 | .53 | .51 | .53 | .57 | .57 |
| .75 | 0.6 | .45 | .54 | .53 | .56 | .53 | .54 | .56 | .56 | .45 |
| 0.85 | 0.48 | .42 | .43 | .515 | .515 | .515 | .53 | .62 | .56 | .54 |

Table: Loss

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Drop out prob | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 |
| 0.5 | 3.3 | 2.7 | 2.3 | 2.7 | 2.7 | 2.3 | 2.4 | 2.5 | 1.9 | 1.29 |
| .75 | 1.99 | 1.43 | 1.23 | 2.17 | 2.07 | 1.77 | 1.4 | 1.3 | 1.3 | 1.6 |
| 0.85 | 1.6 | 1.49 | 1.18 | 1.25 | 1.33 | 1.22 | 1.14 | 1.19 | 1.08 | 1.04 |

Conclusion : The best result is obtained when the prob is 0.5