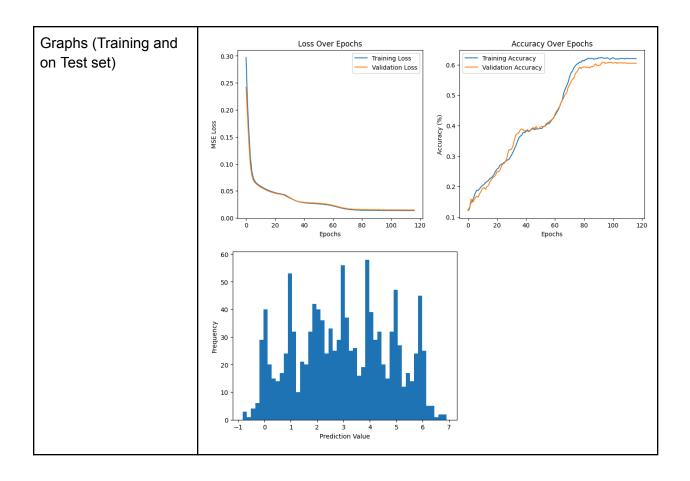
## ANN

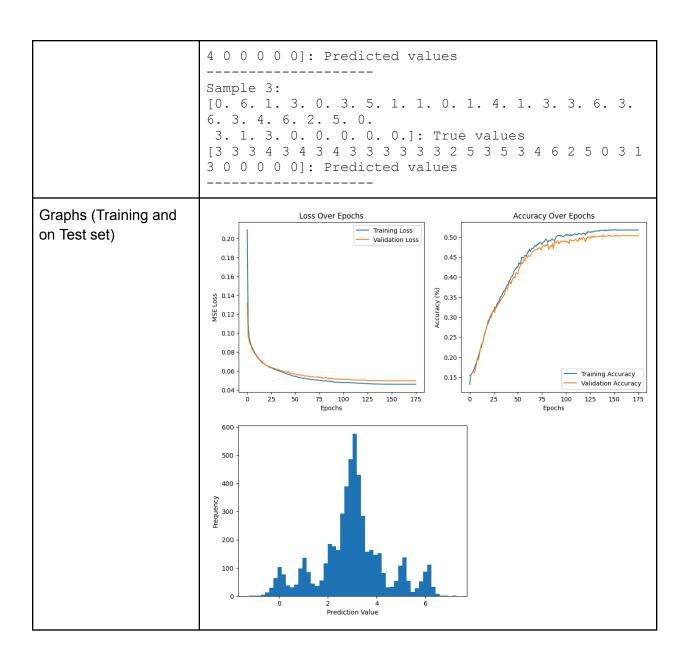
(6, 7, 2)								
Weights	<b>Total params:</b> 352 (1.38 KB)							
	Trainable params: 352 (1.38 KB)							
	Non-trainable params: 0 (0.00 B)							
FLOPs	672							
Test Results	Loss: 0.014846100471913815, MSE: 0.015677710995078087, Accuracy: 0.6063987612724304							
Inference Time	Average batch inference time over 100 runs: 0.136263 seconds Average inference time per sample (from batch): 0.000681 seconds							
R2 score	0.6168							
Test set predictions	Comparison of predictions and ground truth:  Sample 1:  Predicted: [2 2 3 0 1 0 0 0]  Ground Truth: [4 1 4 0 0 0 0 0]  Sample 2:  Predicted: [3 4 6 5 4 6 0 0]  Ground Truth: [4 4 6 5 4 6 0 0]							
Unseen set predictions	MSE on unseen data: 0.01362967025488615 Accuracy on unseen data: 0.5083333253860474 Sample 1: [6. 3. 4. 6. 2. 4. 0. 0.]: True values [3 4 4 5 3 4 0 0]: Predicted values							



(12, 7, 2)								
Weights	Total params: 1,344 (5.25 KB)							
	Trainable params: 1,344 (5.25 KB)							
	Non-trainable params: 0 (0.00 B)							
FLOPs	2624							
Test Results	Loss: 0.015657471492886543, MSE: 0.014923169277608395, Accuracy: 0.6480655074119568							
Inference Time	Average batch inference time over 100 runs: 0.098268 seconds Average inference time per sample (from batch): 0.000491 seconds							
R2 score	0.6081							
Test set predictions	Comparison of predictions and ground truth:  Sample 1:  Predicted: [5 0 1 3 3 0 6 1 6 6 6 6 0 0 0 0]  Ground Truth: [4 0 1 2 3 0 6 1 6 6 6 6 0 0 0 0]							

	Sample 2:     Predicted: [2 5 4 2 0 1 1 3 3 3 1 4 0 0 0 0]     Ground Truth: [0 6 3 0 1 1 2 3 4 3 1 4 0 0 0 0]
	Ground Truth: [5 4 3 5 3 1 6 5 1 5 0 2 0 0 0 0]
Unseen set predictions	MSE on unseen data: 0.012187251821160316 Accuracy on unseen data: 0.762499988079071 Sample 1: [6. 3. 4. 6. 2. 4. 4. 6. 1. 2. 6. 2. 0. 0. 0. 0.]: True values [3 3 3 4 3 4 5 6 2 2 6 2 0 0 0 0]: Predicted values
	Sample 2: [2. 4. 3. 2. 5. 4. 1. 3. 5. 5. 1. 3. 0. 0. 0. 0.]: True values [3 4 4 3 5 4 1 3 5 5 1 3 0 0 0 0]: Predicted values
	Sample 3: [4. 0. 3. 1. 5. 4. 3. 0. 0. 2. 2. 6. 0. 0. 0. 0.]: True values [4 1 3 1 5 4 3 0 0 2 2 6 0 0 0 0]: Predicted values
Graphs (Training and on Test set)	Loss Over Epochs  Accuracy Over Epochs  O.7  Training Loss Validation Loss  O.5  O.5  O.5  O.04  O.05  O.00  O.05  O.00  O.00

(27, 7, 2)								
Weights	Total params: 5,248 (20.50 KB)							
	Trainable params: 5,248 (20.50 KB)							
	Non-trainable params: 0 (0.00 B)							
FLOPs	10368							
Test Results	Loss: 0.04948757588863373, MSE: 0.04956365004181862, Accuracy: 0.5038028955459595							
Inference Time	Average batch inference time over 100 runs: 0.094070 seconds Average inference time per sample (from batch): 0.000470 seconds							
R2 score	0.3993							
Test set predictions	Comparison of predictions and ground truth:  Sample 1:  Predicted: [3 3 3 3 3 3 3 3 3 4 3 3 2 4 1 2 2 5 1 4 3 4 4 6 5 2 3 1 0 0 0 0 0 0]  Ground Truth: [5 6 5 1 3 4 1 1 6 2 3 1 4 0 3 2 5 1 4 3 4 4 6 5 2 3 1 0 0 0 0 0 0]  Sample 2:  Predicted: [4 3 3 3 3 3 3 3 2 2 3 3 3 3 2 3 1 1 2 0 1 1 5 2 1 4 0 4 0 0 0 0 0 0]  Ground Truth: [1 4 1 3 3 3 0 5 5 2 4 3 3 1 3 1 1 2 0 1 1 5 2 1 4 0 4 0 0 0 0 0 0]  Sample 3:  Predicted: [3 3 3 3 3 3 3 3 3 3 3 3 3 2 4 3 3 5 1 4 6 0 4 3 2 3 4 4 0 0 0 0 0 0]  Ground Truth: [2 6 0 2 2 1 3 4 2 6 4 1 0 5 2 3 5 1 4 6 0 4 3 2 3 4 4 0 0 0 0 0 0]							
Unseen set predictions	MSE on unseen data: 0.046521034091711044 Accuracy on unseen data: 0.5148147940635681 Sample 1: [6. 3. 4. 6. 2. 4. 4. 6. 1. 2. 6. 2. 2. 4. 3. 2. 5. 4. 1. 3. 5. 5. 1. 3. 4. 0. 3. 0. 0. 0. 0. 0.]: True values [3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3							



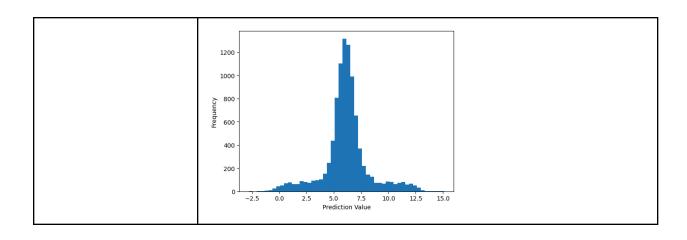
(48, 13, 2)			
Weights	Total params: 20,736 (81.00 KB)		
	Trainable params: 20,736 (81.00 KB)		
	Non-trainable params: 0 (0.00 B)		
FLOPs	41216		
Test Results	Loss: 0.0545484684407711, MSE: 0.054171182215213776, Accuracy: 0.2111235111951828		
Inference Time	Average batch inference time over 100 runs: 0.093634 seconds		

	Average inference time per sample (from batch): 0.000468 seconds							
R2 score	0.1873							
Test set predictions	Comparison of predictions and ground truth:  Sample 1:  Predicted: [7 5 6 5 6 5 6 6 6 6 5 7 5 6 6 5 5 6 6 6 6 6 5 6 6 5 5 6 6 7 7 7 6 6 5 5 3 6 6 12 9 4 9 7 0 10 11 2 7 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							
	Sample 2:     Predicted: [6 8 6 6 7 7 6 8 6 5 7 6 7 6 8 6 5 7 6 7 6 8 6 7 7 6 8 6 5 7 6 7 6 8 6 7 7 6 8 6 7 7 6 8 6 7 7 6 8 6 7 7 6 8 7 7 6 8 7 7 6 8 7 7 6 8 7 7 8 8 8 8							
	Sample 3:     Predicted: [7 6 8 6 6 6 6 6 6 6 7 6 6 6 5 5 6 6 7 5 6 6 5 6 7 6 6 7 7 6 6 7 7 7 4 4 3 9 12 1 11 7 6 8 13 8 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							
Unseen set predictions	MSE on unseen data: 0.051177412271499634 Accuracy on unseen data: 0.16770833730697632 Sample 1: [ 6.  3. 12. 10.  7. 12.  4. 6.  9.  2.  6. 10. 10. 7.  4.  3.  7.  7.         2.  5.  4.  1.  7. 11.  5.  1. 11.  4.  0. 11.  9. 5. 12. 11.  8.  0.         10.  10.  9. 11. 11.  2. 11.  6.  3.  8.  2.  4.  0. 0. 0.  0.  0.  0.  0.  0. 0. 0.]: True values [ 6  7  7  7  7  7  6  6  7  5  7  6  6  8  8  8  8							

```
6
                                   8
                        6 5 7 5
                                      6
                                                8
                                                    8
                                                          7 -1 10 10 10 12 12
                             6 3
                                   9
                                       2
                                           5
                               1 0
                                             0
                                                0
                                                    0
                                                       0
                                                           0
                                                                 0
                                                                     0 0
                                                                           0]:
                                     0
                      Predicted values
                      Sample 2:
                      [2. 6. 4. 8. 6.
                                               1.
                                                    3.
                                                        8. 11.
                                                                  1.
                                                                                9.
                      4. 1. 3. 11. 11.
                         6. 11. 12. 7. 2.
                                               0.
                                                    3.
                                                        1.
                                                             7.
                                                                  3.
                                                                      1.
                                                                           5.
                                                                                5.
                      9. 3. 5. 12. 1.
                        9. 11. 1. 9.
                                           3.
                                               7.
                                                    6. 11.
                                                             8.
                                                                  7.
                                                                      4. 12.
                                                                               0.
                      0. 0. 0. 0.
                                       0.
                            0. 0. 0. 0.
                                               0.
                                                        0.
                        0.
                                                    0.
                                                             0.
                                                                  0.]: True
                      values
                               6
                                   6
                                      7
                                          6
                                             6
                                   5
                             8
                               5
                                       6
                                           6
                            6 7
                                      8
                                          8
                                                              0 10 12
                                                                               4
                                   6
                                                8
                         6 13 9
                                   8
                                      5 13
                                                    0
                                                                    0 -1
                               0 0 0
                                         0
                                            1
                                                0
                                                       0
                                                           0
                                                              0
                                                                 0
                      Predicted values
                      Sample 3:
                      [ 1. 4. 7. 9. 8. 11. 11. 11. 12.
                                                                 8. 12. 12.
                                                                               0.
                      8. 6. 8. 7. 0.
                       11. 7. 7. 10. 2. 0.
                                                    7.
                                                        2.
                                                             2.
                                                                  0.10.
                                                                                9.
                          9. 8. 11. 6.
                                          0.
                        8. 7. 11. 1.
                                               6.
                                                    6.
                                                         7.
                                                             4.
                                                                  2. 11.
                                                                         7.
                                                                               0.
                          0. 0. 0.
                                       0.
                        0. 0. 0. 0. 0.
                                               0.
                                                        0.
                                                             0.
                                                    0.
                                                                  0.]: True
                      values
                                      7
                            6
                               6 6
                                          6
                                                7
                                                                               5
                                             6
                                                    6
                                   5
                             5 5
                                       7
                                           6
                               5
                                   7
                                      6
                                          6
                                             8
                                                 6
                                                           9
                                                                     8 12
                                                                               0
                                4
                                   3 12
                                      0
                                                    0
                               0
                                  0
                                          0
                                             0
                                                0
                                                       0
                                                           0
                                                              0
                                                                  0
                                                                         0
                                                                            01:
                      Predicted values
Graphs (Training and
                                   Loss Over Epochs
                                                                Accuracy Over Epochs
                        0.225 -
                                           - Training Loss

    Training Accuracy

on Test set)
                                            Validation Loss
                                                      0.225
                        0.200
                                                      0.200
                        0.175
                       0.150
                                                      0.175
                                                     (%)
                                                     0.150
                       U 0.125
                                                     0.125
                        0.100
                                                      0.100
                        0.075
                                                      0.075
                        0.050
                                                100
                                                                               100
                                      Epochs
                                                                    Epochs
```

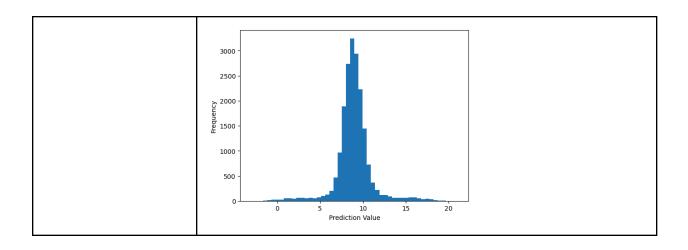


(96, 19, 2)								
Weights	Total params: 82,432 (322.00 KB)							
	Trainable params: 82,432 (322.00 KB)							
	Non-trainable params: 0 (0.00 B)							
FLOPs	164352							
Test Results	0.06363978236913681, MSE: 0.06375821679830551, Accuracy: 0.0924944281578064							
Inference Time	Average batch inference time over 100 runs: 0.106459 seconds Average inference time per sample (from batch): 0.000532 seconds							
R2 score	0.0626							
Test set predictions	Comparison of predictions and ground truth: Sample 1:     Predicted: [ 6 6 10 9 9 8 9 6 9 8 11 8 9 9 8 7 8 8 8 8 9 10 9 10 9							

```
14 13 4 16 10 14 12 3 12 12 10 4 13 2 17 2
7 16 0 6 17 3 9
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0
 0 0 0 0 0 0 0 0]
Sample 2:
 Predicted: [ 8 10 7 10 10 9 9 7 9 9 10 10
9 10 8 10 9 8 8 8 9 7 9
 8 10 9 9 7 8 9 8 9 8 9 7 10 10 9 8
8 8 9 9 8 10 9
 9 9 8 9 8 9 10 9 9 9 8 10 9 10 8
9 9 10 8 8 11 9
10 9 10 10 8 8 9 7 7 9 7 9 10 5 4 5
16 8 21 4 5 7 5
 1 0 0 0 1 -1 0 0 0 0 0 0 0 0 0 0
1 0 0 0 0 -1 1
 0 0 0 0 1 0 0 0]
 Ground Truth: [ 2 8 8 4 18 15 15 17 11 15 4 2
6 13 15 0 4 7 1 6 5 9 2 5
18 1 18 16 3 2 13 2 10 9 2 8 15 17 4 14 15
17 5 3 12 0 1 14
 3 12 13 14 7 8 4 2 6 7 15 16 9 0 18 17 17
4 10 0 10 10 4 17
 7 14 2 15 11 1 12 18 12 17 15 9 6 1 3 3 0
15 5 18 4 5 6 4
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0
 0 0 0 0 0 0 0 01
Sample 3:
 Predicted: [ 9 7 8 10 6 5 9 9 10 5 7 7
7 5 8 8 4 7 10 7 10 9 10 7
  8 \quad 7 \quad 5 \quad 7 \quad 6 \quad 8 \quad 9 \quad 13 \quad 9 \quad 10 \quad 8 \quad 10 \quad 9 \quad 9 \quad 10 \quad 7 \quad 6 
6 7 9 10 7 8 9
12 8 9 7 9 8 10 10 7 11 10 8 8 9 8 10 8
8 7 8 8 9 9 12
 8 10 10 9 9 9 10 8 12 11 15 4 11 2 8 16
18 8 5 13 13 2 1
-1 0 0 0 1 0 0 0 -1 0 0 -1 1 1 0 1 2
-1 1 0 0 0 -2 0
 1 0 0 0 -1 0 0 0]
 Ground Truth: [10 3 13 3 3 1 6 18 0 11 18 11
8 6 0 5 9 0 17 2 10 13 5 10
 6 7 4 17 14 17 2 9 14 7 7 13 9 12 9 5 17
15 17 5 8 15 5 10
 2 7 0 14 14 18 9 18 8 6 13 1 12 3 6 7 15
8 10 13 3 18 14 13
15 2 5 3 0 17 7 15 15 14 1 11 3 10 1 5 16
18 8 4 13 15 0 2
 \circ
0 0 0 0 0 0
0 0 0 0 0 0 0 0]
```

```
MSE on unseen data: 0.060016267001628876
Unseen set predictions
                 Accuracy on unseen data: 0.08177082985639572
                 Sample 1:
                 [ 6. 14. 10. 7. 6. 18. 10. 10. 3. 7. 2.
                 5. 1. 0. 11. 11.
                 16. 9. 15. 14. 14. 18. 11. 2. 4. 18. 6.
                 17. 3. 13. 17. 8.
                  1. 14. 6. 11. 7. 14. 2. 13. 16.
                                                 3. 17.
                 1. 5. 9. 3. 17.
                 11. 1. 9. 3. 13. 15. 14. 7. 13. 7. 15. 12. 17.
                 14. 12. 8. 14. 12.
                  0. 6. 8. 0. 11. 7. 10. 18. 16.
                                                  7. 2.
                                                         2.
                 4. 9. 6. 8. 6.
                     7. 11. 1. 0. 15. 0. 0.
                                                  0.
                                               0.
                                                      0.
                                                         0.
                                                             0.
                  8.
                 0. 0. 0. 0. 0.
                  0. 0. 0. 0. 0. 0. 0.
                                              0.
                                                 0.
                                                     0.
                                                         0.
                 0. 0. 0. 0. 0.
                  0. 0.]: True values
                                       7
                                             9
                 [8 8 8 7 8 9 7 11
                                          9
                   8 8 9 9 9 9
                     8 9 9 7 7 10 7
                 10
                                       9
                                          8
                                             9 10
                                                  7 11
                 8 10
                     9 9
                           8 10 10
                 10
                     8 8 9 9 9
                                        9
                                             9
                                                             9
                                  8
                                     8
                                          8
                   9 9 8 8 8 10
                   9 10 9 9 10 7 9
                                          7
                                             5
                                     9
                                        9
                                                     5 10
                 6 8 7 10 1 1 14
                  -1 0 0 0 0 0 1 0
                                       0
                                          0
                                             0
                                               0
                                                  0 -1 0
                 0 0 0 1 0 0 0
                  0 0 0 -1 0 0 1 0]: Predicted values
                 Sample 2:
                 [4. 2. 11. 7. 2. 0. 2. 4. 14. 13.
                                                     2.
                                                        0. 4.
                 13. 6. 8. 14. 14.
                   9. 12. 18. 6. 16. 3. 4. 6. 12. 14. 10. 3. 12.
                 6. 18. 1. 9. 12.
                   5. 11. 11. 10. 6. 0. 0. 12. 8. 2. 6.
                                                        5. 7.
                 8. 4. 0. 18. 9.
                 11. 14. 8. 16. 16. 11. 6. 1.
                                               2. 16.
                                                      4. 16. 16.
                 16. 1. 1. 4. 0.
                  0. 18. 1. 11. 5. 3. 10. 16.
                                               5.
                                                 4.
                                                      1.
                                                         5. 10.
                 15. 15. 0. 8. 5.
                 15. 2. 3. 18. 2. 18. 0.
                                          0.
                                               0.
                                                  0.
                                                      0.
                                                         0.
                                                             0.
                 0. 0. 0. 0. 0.
                  0. 0. 0. 0. 0. 0. 0.
                                               0.
                                                  0.
                                                      0.
                                                         0.
                                                             0.
                    0. 0. 0. 0.
                  0. 0.]: True values
                                             9
                 [777
                        9 7 8 8 8 8
                                        9
                                          8
                                               8
                                                  9 10
                   9 9 9 9 9
                   7 8 9 10 9 7 9 9
                                             7 10
                                                  8 10
                                                            10
                     8 8 8 8
                 10 9 8 8 10 9 9 8 10 11 10
                                                             8
                   9
                     9 7
                           8
                             7 8
                  9 8 8 9 7 8 10 10 9 7 10
                                                  9 12 14
                 5 12 1 4 15 2 15
                  0 0 0 1 -1 1 0 -1 -1 0 0 0 0 -1 0
```

```
-1 0 -1 0 0 1 0
                        -1 0 0 0 0 0 0 0]: Predicted values
                       Sample 3:
                       [ 6. 8. 0. 7. 6. 17. 7. 0. 10. 17.
                                                                            2.
                                                                        9.
                                                                                 6.
                      15. 15. 16.
                                     1.
                                          0.
                       15. 11. 4. 4. 8. 8.
                                                    2. 18. 15. 15.
                                                                        2.
                                                                            0.10.
                      16. 7. 3.
                                     5.
                                          7.
                                  2. 17. 13. 17. 1.
                         2. 15.
                                                          2. 15.
                                                                  8.
                                                                        3.
                                                                                 3.
                                                                            0.
                      0. 13. 15. 7. 6.
                         2. 16. 0. 15. 11. 18. 13.
                                                          5.
                                                              5. 12. 18.
                                                                            7.
                                                                                 1.
                      0.14.0.4.15.
                                  2. 16. 16. 11. 13.
                              3.
                                                          5.
                                                              2.
                                                                   8.
                                                                        4. 16. 13.
                        18.
                           0.
                               0.
                                    2. 17.
                         9.
                              2. 7. 13. 17. 14.
                                                     0.
                                                          0.
                                                              0.
                                                                   0.
                                                                        0.
                                                                            0.
                                                                                 0.
                           0. 0. 0. 0.
                              0.
                                  0. 0. 0. 0.
                                                     0.
                                                          0.
                                                              0.
                                                                   0.
                                                                        0.
                                                                            0.
                                                                                 0.
                                        0.
                           0.
                               0. 0.
                              0.]: True values
                                9
                                                                9
                                                                              8
                                                                                 7
                                    9 10
                                           8
                                              9
                                                 8 10
                                                         9
                                                                   8
                                                                          8
                                 7
                              9
                                     8
                                            7
                                9
                                                                   8
                                                                              8
                                                                                 9
                              8
                                     8
                                        9
                                            8
                                       9
                                                                                 8
                                 7
                                            9
                              8
                                   10
                                        9
                            9
                               9
                                  10
                                       9
                                              9
                                                                                 3
                        10
                                          8
                                                            9 10 10
                      15 10
                                   6 13 15 12
                         0
                            0
                                0
                                   0
                                       0
                                          0
                                              0
                                                 0
                                                     0
                                                         0
                                                            0
                                                               0
                                                                   0
                                                                       0
                                                                          0 -1
                                                                                 0
                          0
                              0
                                 0
                                    0
                                       0 1
                               0
                                       0 0 0 0]: Predicted values
                                   0
Graphs (Training and
                                    Loss Over Epochs
                                                                 Accuracy Over Epochs
                         0.14
                                             - Training Loss
                                                             Training Accuracy
on Test set)
                                            --- Validation Loss
                                                             Validation Accuracy
                         0.13
                                                        0.09
                         0.12
                         0.11
                                                        0.08
                                                      (%)
                       0.10
                       0.09
                                                        0.07
                         0.08
                                                        0.06
                         0.07
                         0.06
                                      20
                                       Epochs
                                                                      Epochs
```



(210, 211, 2)								
Weights	Total params: 328,704 (1.25 MB)							
	Trainable params: 328,704 (1.25 MB)							
	Non-trainable params: 0 (0.00 B)							
FLOPs	656384							
Test Results	Loss: 0.06956274062395096, MSE: 0.06914959847927094, Accuracy: 0.004761904943734407							
Inference Time	Average batch inference time over 100 runs: 0.096963 seconds Average inference time per sample (from batch): 0.000485 seconds							
R2 score	-0.0052							
Test set predictions	Comparison of predictions and ground truth: Sample 1:     Predicted: [105 105 103 102 103 103 106 108 101 106 107 109 105 108 107 106 108 104 102 108 107 103 103 100 101 101 106 106 107 106 103 105 105 105 103 106 105 105 105 103 106 105 104 110 105 102 102 103 105 103 105 108 106 107 108 104 109 103 105 106 106 106 111 101 102 108 107 102 106 99 109 101 103 110 110 109 106 107 109 102 106 110 108 109 104 103 105 103 104 104 101 104 105 106 108 111 104 107 107 102 105 107 105 105 105 103 104 104 101 104 105 106 108 111 104 107 107 102 105 107 105 105 103 106 106 104 106 106 103 104 104 110 106 101 104 104 107 106 99 106 110 107 110 103 101 102 104 103 106 106 104 107 108 104 106 105 103 102							

```
108 106 109 103 104 105 104 104 105 105 105 104 104
106 103 105 106 101
105 106 105 107 103 109 102 105 105 102 103 109 108
104 107 106 105 100
107 104 106 104 107 102 104 103 103 108 111 106 105
100 104 102 106 104
108 104 104 103 100 108 106 103 103 109 108 108
   0
      0
         0
             0
   \cap
      0
          0
              0
                  0
                     0
                         0
                            0
                                 0
                                     0
                                         0
                                                \cap
   0
       0
          0
              0
      0
          0
              0
                  \cap
                    \cap
                         \cap
                            0
                                 0
                                    0
                                         \cap
                                            0
                                                \cap
   0
   0
       0
          0
              0
      0
          0
              01
  0
 Ground Truth: [179 157 130 128
                               9 48 64 160 122
92 162 164 178 53 62 45 173 120
177
     6 83 127 188 11 73 37 94 166 148 150 171
171 20 104 91 188
                        4 208 192 164 93 31 193
207 118 210 151 106 158
33 28 117 132 157
106 172 145 77 164 10 3 112 45 123 130 52 151
97 135 207 133 84
 85 200 17 203 133 90 107 166 110 0 14 141
84 173 110 116 40
     5 19 67 39 146 103 126 73 124
113
                                       68
                                               94
      5 42 146
43 52
145 29 198 144 116 180 195 191 130 152 157 163
                                               77
168 150 177 113 15
 91 203 199 157 59 104 188 5 38
                                   4
                                        2 73 29
  10 130 14 171
 53 128 12 62 111 55 38 166 101 66 157 107 168
89 138 197 75 207
117 85 21 165 11 163 49 16 159 172 164 194 24
82 100 113 101 104
  48 42 18 79 25 96 14 52 19 132 63 175 167
23 69 139 127 3
111 170 204 179 148 196 140
                            1 107 133
                                       92 150
   0
       0
           0
              0
      0
          0
              0
                  0
                     0
                             0
                                 0
                                     0
  \cap
                         0
                                                0
   0
       0
          0
             0
   \cap
      0
          0
              0
                  \cap
                    \cap
                         0
                            0
                                 0
                                     0
                                                0
   0
       0
          0
              0
      0 0 0]
  \cap
_____
Sample 2:
 Predicted: [105 105 103 102 103 103 106 108 101
106 107 109 105 108 107 106 108 104
102 108 107 103 103 100 101 101 106 106 107 106 103
105 105 105 103 106
 105 104 110 105 102 102 103 105 103 105 108 106 107
108 104 109 103 105
106 104 108 106 105 106 106 106 111 101 102 108 107
102 106 99 109 101
103 110 110 109 106 107 109 102 106 110 108 109 104
103 105 103 102 106
105 103 104 104 101 104 105 106 108 111 104 107 107
```

```
102 105 107 105 105
103 106 106 104 106 106 103 104 104 110 106 101 104
104 107 106 99 106
110 107 110 103 101 102 104 103 106 106 104 107 108
104 106 105 103 102
108 106 109 103 104 105 104 104 105 105 105 104 104
106 103 105 106 101
105 106 105 107 103 109 102 105 105 102 103 109 108
104 107 106 105 100
 107 104 106 104 107 102 104 103 103 108 111 106 105
100 104 102 106 104
108 104 104 103 100 108 106 103 103 109 108 108
\cap
   0
       0
           0
              0
   0
      0
          0
              0
                  0
                     0
                         0
                             0
                                 0
                                                0
                                         0
0
   0
       0
           0
               0
   0
      0
          0
              0
                  0
                     0
                         0
                            0
                                 \cap
                                         0
                                                \cap
              0
   0
       0
           0
  0
      0
          0
              01
 Ground Truth: [131 145 129 185 160
                                        93 106 123
                                    64
62 102 89 30 207 195 12 154 56
141 51 190 79 200 127 136 166 90
                                   6 56 54 134
210 207 116 143 46
 97 190 102 95 206 32 148 166 123 156 15 172 100
70 31 170 157 137
 14 140 116 57 85 102 22 52 33 197 44 159 180
101 203 158 171 78
 75 98 192 152 9 32 121 56 169 51 126 62 107
142 135 165 27 71
 92 189 179 210
29 138
       8 116 100
                                   65 125 182 137
 97 147
        3 68 180 204 67 137 107
46 65 207 198 200
110 151 200 173 135 11 129 136 70 156
                                        95 83 150
78 32 143 136 107
 201 163 182 159 174 113 141 162 119 13
                                           50
                                              75
47 185 168 200 140
184 153 142 119 79 137 144 103 127 108
                                         9 174 110
9 188 34 104 135
137 198 97 192 68 208 47 19 67 45
                                        97
                                           35
49 59 103 28 19
  \cap
   0
       0
          0
              0
                     0
                             0
                                 0
                                     0
   0
      0
          0
              0
                  0
                         0
                                         0
                                            0
                                                0
       0
           0
0
   0
               0
   0
      0
          0
              0
                  0
                     0
                         0
                             0
                                 0
                                     0
                                         0
                                                0
\cap
   \cap
       0
           0
               \cap
  0
      0
          0
              0]
Sample 3:
 Predicted: [105 105 103 102 103 103 106 108 101
106 107 109 105 108 107 106 108 104
102 108 107 103 103 100 101 101 106 106 107 106 103
105 105 105 103 106
105 104 110 105 102 102 103 105 103 105 108 106 107
108 104 109 103 105
```

	106 104 108 106 105	106	106	106	111	101	102	108	107
	102 106 99 109 101 103 110 110 109 106	107	109	102	106	110	108	109	104
	103 105 103 102 106	101	105	100	100		101	100	100
	105 103 104 104 101 102 105 107 105 105	104	105	106	108	TTT	104	10 /	10 /
	103 106 106 104 106	106	103	104	104	110	106	101	104
	104 107 106 99 106 110 107 110 103 101	102	104	103	106	106	104	107	108
	104 106 105 103 102								
	108 106 109 103 104 106 103 105 106 101	105	104	104	105	105	105	104	104
	105 106 105 107 103	109	102	105	105	102	103	109	108
	104 107 106 105 100	1 0 0	101	1 0 2	102	1 0 0	111	100	105
	107 104 106 104 107 100 104 102 106 104	102	104	103	103	108	ТТТ	106	105
	108 104 104 103 100	108	106	103	103	109	108	108	0
	0 0 0 0 0	0	0	0	0	0	0	0	0
	0 0 0 0 0			_		_	_	_	
	0 0 0 0 0	0	0	0	0	0	0	0	0
	0 0 0 0]								
	Ground Truth: [ 5 208 41 83 31 31					69	97	128	21
	138 156 160 128 90					105	114	92	153
	168 89 103 95 169 59 87 130 12 138	56	196	192	118	31	12	16	65
	148 69 181 93 142	30	100	172	110			10	
	142 108 110 8 75 11 116 55 206 98	70	87	20	136	65	70	1	55
	178 197 186 70 10	130	161	84	146	134	106	138	62
	194 183 102 170 183 44 127 187 160 27	102	115	56	51	3	144	34	41
	187 153 175 63 144	102	110	30	91	9	111	51	71
	97 199 200 134 64 121 183 26 17 62	127	51	168	115	143	193	199	85
	79 114 153 149 185	0	173	85	26	101	171	160	82
	32 124 181 152 5 175 92 59 189 14	203	186	37	1/12	158	113	102	1 / 7
	156 74 200 143 207	200	100	37	172	100	110	172	11/
	160 182 18 88 49 140 86 11 61 172	33	191	102	151	112	31	120	130
	23 23 208 14 177	87	95	194	115	172	192	19	20
	139 99 107 84 82 146 100 1 32 164	0	21	ΩO	101	200	157	1 2	0
	146 100	9	31	93	124	208	10/	13	0
	0 0 0 0 0	0	0	0	0	0	0	0	0
	0 0 0 0 0	0	0	0	0	0	0	0	0
	0 0 0 0 0								
	0 0 0 0]								
Linguage and prodictions	/uer/local/lih/ny+ho	n 3 1	1/4:	zt _n:	acka	700/	ימשוור	7/ 01	ore/
Unseen set predictions	/usr/local/lib/python3.11/dist-packages/numpy/_core/								

```
methods.py:188: RuntimeWarning: overflow
encountered in multiply
 x = um.multiply(x, x, out=x)
                              Os 174ms/step
1/1 -
MSE on unseen data: 0.06809185445308685
Accuracy on unseen data: 0.002142857061699033
Sample 1:
[102. 179. 92. 14. 106. 71. 188. 20. 102. 121.
210. 74. 202. 87.
116. 99. 103. 151. 130. 149. 52.
                                  1. 87. 157.
37. 129. 191. 187.
 20. 160. 203. 57. 21. 88. 48.
                                  58. 169. 187.
207. 14. 189. 189.
174. 189. 50. 107. 54.
                         63. 130.
                                  50. 134.
                                           20.
72. 166. 17. 131.
 88. 59. 13. 8. 89. 52. 129. 83. 91. 110.
187. 198. 171.
               7.
174. 34. 205. 80. 163. 49. 103. 131. 1. 133.
53. 105. 3. 53.
190. 145. 43. 161. 201. 189. 13. 94. 47. 14.
199. 205. 189. 39.
207. 81. 110. 52. 23. 153. 187. 123.
14. 44. 64. 88.
 70. 8. 87. 128. 135. 62. 138. 80. 135. 162.
162. 32. 122.
               4.
  40. 27. 134. 200. 71. 11. 161. 32. 47. 150.
61. 36. 98. 171.
103. 34. 192. 100. 174. 205. 130.
                                  0.
                                        4. 141.
102. 26. 136. 206.
 14. 89. 41. 123. 204. 178. 62.
                                  95.
                                       51.
                                           95.
131. 150. 142. 170.
 28. 35. 12. 159. 70. 186. 85.
                                  27. 65. 169.
44. 61. 184. 133.
  27. 27. 107. 43. 83. 29. 189. 74. 127. 91.
189. 128. 120. 26.
                     2. 102. 197. 199. 154. 136.
189. 120. 115. 204.
61. 164. 50. 171.
                         0.
  0. 0. 0. 0.
                     0.
                               0.
                                   0.
                                        0.
                                             0.
  0. 0. 0.
  0.
       0. 0.
                0.
                     0.
                          0.
                               0.
                                    0.
                                        0.
                                             0.
0. 0. 0. 0.
       0. 0. 0.
                     0.
                          0.
                               0.
                                   0.
                                        0.
                                             0.
  0.
   0.
         0. 0.
       0.
           0.
               0.]: True values
  0.
[105 105 103 102 103 103 106 108 101 106 107 109 105
108 107 106 108 104
102 108 107 103 103 100 101 101 106 106 107 106 103
105 105 105 103 106
105 104 110 105 102 102 103 105 103 105 108 106 107
108 104 109 103 105
106 104 108 106 105 106 106 106 111 101 102 108 107
102 106 99 109 101
103 110 110 109 106 107 109 102 106 110 108 109 104
103 105 103 102 106
105 103 104 104 101 104 105 106 108 111 104 107 107
```

```
102 105 107 105 105
103 106 106 104 106 106 103 104 104 110 106 101 104
104 107 106 99 106
110 107 110 103 101 102 104 103 106 106 104 107 108
104 106 105 103 102
108 106 109 103 104 105 104 104 105 105 105 104 104
106 103 105 106 101
105 106 105 107 103 109 102 105 105 102 103 109 108
104 107 106 105 100
107 104 106 104 107 102 104 103 103 108 111 106 105
100 104 102 106 104
108 104 104 103 100 108 106 103 103 109 108 108
   0 0
          0
              0
             0
  0
      0
         0
                 0
                    0
                       0
                            0
                                0
                                                0
\cap
  0
      0
         0
             0
  0
      0 0
              0
                 0
                    0
                         0
                             0
                                                0
  0
      0
             0
         0
  0 0 0]: Predicted values
Sample 2:
[151. 206. 58. 117. 159. 95. 179. 112. 61. 185.
51. 11. 38. 129.
130. 112. 100. 112. 183. 80. 186. 112. 1. 129.
53. 86. 128. 146.
125. 129. 52. 171. 159. 197. 159. 67. 182. 202.
183. 122. 144. 37.
 23. 68. 115. 97. 197. 138. 143. 96. 200. 123.
186. 69. 207. 92.
  2. 147. 186. 163. 146. 89. 194. 146. 147. 95.
198. 51. 160. 167.
127. 38. 81. 103. 128. 10. 184. 177. 150. 158.
41. 98. 6. 143.
 89. 111. 59. 112. 1. 128. 47. 139. 196. 36.
159. 8. 98. 146.
 47. 207. 130. 147. 151. 53. 119. 160. 151. 115.
74. 112. 199. 163.
165. 103. 83. 111. 98. 152. 92. 145. 127. 109.
81. 193. 53. 162.
207. 188. 168. 160. 67. 32. 141. 20. 47. 147.
127. 135. 134. 194.
144. 127. 32. 175. 203. 186. 114. 118. 21. 157.
37. 108. 50. 181.
  7. 26. 26. 20. 29. 96. 27. 110. 191. 196.
60. 47. 146.
              3.
 34. 191. 48. 16. 171. 157. 45. 116.
                                           98.
123. 36. 23. 92.
 45. 180. 94. 98. 187. 115. 190. 159. 160.
127. 17. 24. 53.
  57. 66. 103. 173. 23. 113. 31. 174. 85. 150.
193. 126. 154. 129.
  0. 0. 0. 0.
                    0. 0.
                             0.
                                   0.
                                        0.
                                             0.
0.
   0. 0. 0.
  0. 0. 0.
               0.
                     0.
                          0.
                              0.
                                   0.
                                             0.
0. 0. 0. 0.
  0.
      0. 0. 0.
                     0.
                         0.
                              0.
                                   0.
                                        0.
                                             0.
```

```
0.
              0.
       0. 0. 0.]: True values
   0.
[105 105 103 102 103 103 106 108 101 106 107 109 105
108 107 106 108 104
102 108 107 103 103 100 101 101 106 106 107 106 103
105 105 105 103 106
105 104 110 105 102 102 103 105 103 105 108 106 107
108 104 109 103 105
106 104 108 106 105 106 106 106 111 101 102 108 107
102 106 99 109 101
103 110 110 109 106 107 109 102 106 110 108 109 104
103 105 103 102 106
105 103 104 104 101 104 105 106 108 111 104 107 107
102 105 107 105 105
103 106 106 104 106 106 103 104 104 110 106 101 104
104 107 106 99 106
110 107 110 103 101 102 104 103 106 106 104 107 108
104 106 105 103 102
108 106 109 103 104 105 104 104 105 105 105 104 104
106 103 105 106 101
105 106 105 107 103 109 102 105 105 102 103 109 108
104 107 106 105 100
107 104 106 104 107 102 104 103 103 108 111 106 105
100 104 102 106 104
 108 104 104 103 100 108 106 103 103 109 108 108
   0
       0 0
              0
   0
      0
          0
              0 0
                      0
                          0
                              0
                                  0
                                          0
                                              \cap
                                                 \cap
   0
       0
           0
               0
      0
          0
              0
                  0
                      0
                          0
                              0
                                  0
                                      0
                                                 0
   0
                                          \cap
                                             0
   0
       0
           0
               0
   0
      0 0 0]: Predicted values
Sample 3:
[ 16. 103. 160. 136. 42. 175. 38. 169. 25. 98.
49. 152. 151. 12.
  59. 134. 56. 35. 172. 19. 64. 7. 143. 141.
203. 114. 142. 91.
  97. 65. 31. 190. 85. 50. 152. 185. 62. 189.
124. 149. 57. 57.
  85. 48. 179. 169. 69. 14. 53. 187. 100.
                                             7.
52. 59. 107.
              4.
102. 195. 5. 108. 115. 93. 46. 98. 54. 167.
51. 143. 12. 113.
123. 105. 157. 146. 144. 119. 62.
                                   18.
                                         91.
                                             57.
182. 89. 116. 61.
 22. 126. 136. 139. 128. 57. 121. 0.
                                        33.
                                             95.
125. 117. 47. 88.
116. 128. 15. 188. 191. 190. 68. 21. 92. 194.
75. 153. 143. 178.
  85. 184. 28. 205. 68. 46. 93. 189. 196. 203.
143. 175. 84. 38.
 99. 32. 100. 22.
                     9. 68. 99. 33. 179. 137.
                0.
146. 185. 95.
       3. 15. 23. 79. 1. 127. 159. 83. 151.
 68.
139. 177. 162. 123.
```

```
32. 160. 188. 178. 170. 100. 11. 66. 64. 160.
167. 73. 42. 43.
 28. 140. 11. 94. 45. 129. 34. 80. 89. 7.
92. 153. 201. 89.
161. 114. 104. 134. 195. 57. 113. 74. 156. 119.
163. 20. 163. 137.
100. 200. 151. 191. 176. 98. 35. 209. 95. 151.
150. 189. 36. 11.
  0. 0. 0. 0. 0. 0. 0.
                                      0. 0.
0. 0. 0. 0.
  0. 0. 0. 0. 0. 0.
                                0.
                                      0. 0.
   0. 0. 0.
  0. 0. 0.
                   0. 0. 0.
                                 0.
               0.
                                     0. 0.
0. 0. 0. 0.
  0. 0. 0.]: True values
[105 105 103 102 103 103 106 108 101 106 107 109 105
108 107 106 108 104
102 108 107 103 103 100 101 101 106 106 107 106 103
105 105 105 103 106
105 104 110 105 102 102 103 105 103 105 108 106 107
108 104 109 103 105
106 104 108 106 105 106 106 106 111 101 102 108 107
102 106 99 109 101
103 110 110 109 106 107 109 102 106 110 108 109 104
103 105 103 102 106
105 103 104 104 101 104 105 106 108 111 104 107 107
102 105 107 105 105
103 106 106 104 106 106 103 104 104 110 106 101 104
104 107 106 99 106
110 107 110 103 101 102 104 103 106 106 104 107 108
104 106 105 103 102
108 106 109 103 104 105 104 104 105 105 105 104 104
106 103 105 106 101
105 106 105 107 103 109 102 105 105 102 103 109 108
104 107 106 105 100
107 104 106 104 107 102 104 103 103 108 111 106 105
100 104 102 106 104
108 104 104 103 100 108 106 103 103 109 108 108
  0 0 0 0
  0
      0 0 0 0
                   0
                        0
                           0
                               0
                                      0
                                             0
   0
     0
         0
            0
                        0
         0
             0 0
                          0
                              0
                                 0
                                     0
                                         0
                                            0
  0
      0
                   0
()
  0 0 0
             0
  0 0 0 0]: Predicted values
______
```

