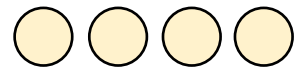


Autoencoder

X_1	X_2	X_3	X_4
1	1	2	1
2	1	2	0
3	2	4	1
1	1	2	1
1	1	1	1

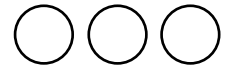


Encoder

1	0	0	1	0
0	1	1	0	0
-1	0	1	0	-1

[\approx ReLU]

1 1 1 1



1	0	1	0
-1	1	0	0

[\approx ReLU]

1 1 1 1

Bottleneck

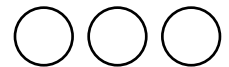


Decoder

1	0	0
0	1	1
1	-1	0

[\approx ReLU]

1 1 1 1



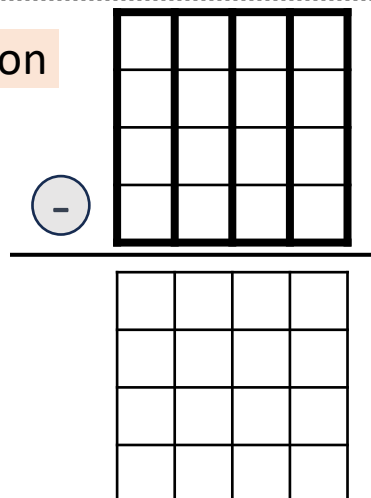
1	0	-1	0
1	-1	0	0
0	0	1	1
0	1	1	-3

Outputs

Y



Reconstruction Loss



Targets
 Y'

MSE Loss
Gradients $\frac{\partial L}{\partial Y}$

x 2

Autoencoder

X_1	X_2	X_3	X_4
1	1	2	1
2	1	2	0
3	2	4	1
1	1	2	1

Encoder

1	0	0	1	0
0	1	1	0	0
-1	0	1	0	-1

[\approx ReLU]

2	2	4	2
5	3	6	1
1	0	1	1

1	0	1	0
-1	1	0	0

[\approx ReLU]

3	2	5	2
3	1	2	1

Decoder

1	0	0
0	1	1
1	-1	0

[\approx ReLU]

3	2	5	2
4	2	3	1
0	1	3	2

1	0	-1	0
1	-1	0	0
0	0	1	1
0	1	1	-3

3	1	2	0
-1	0	2	1
1	2	4	3
1	0	3	0

Reconstruction Loss



1	1	2	1
2	1	2	0
3	2	4	1
1	1	2	1

Targets
 Y'

2	0	0	-1
3	1	0	1
-2	0	0	2
0	-1	1	-1

x 2

MSE Loss Gradients $\frac{\partial L}{\partial Y}$

4	0	0	-2
6	2	0	2
-4	0	0	4
0	-2	2	-2

