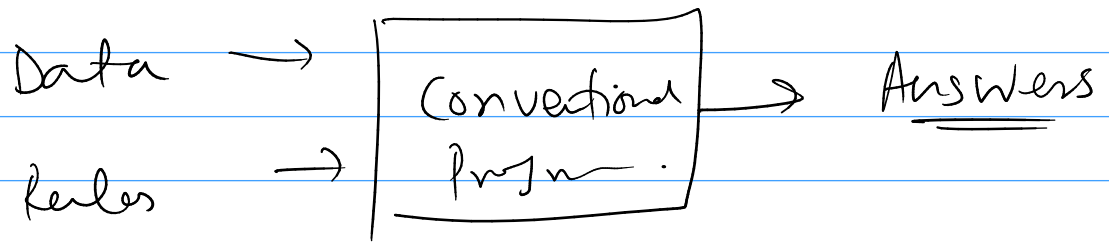
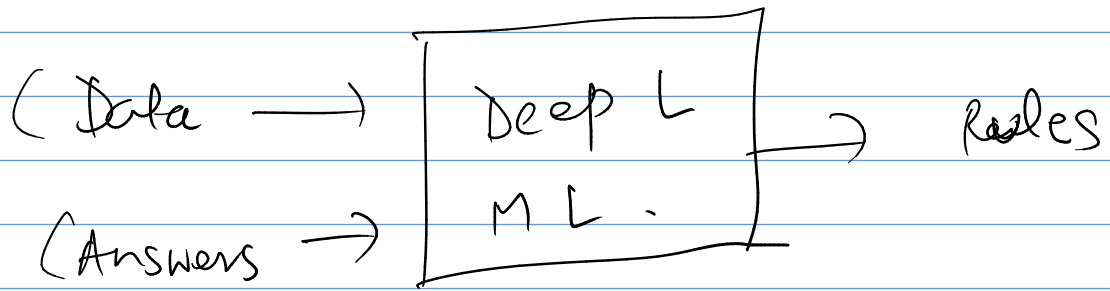


⇒ Deep Learning +



⇒ Neural Networks : Weights, Inputs
Data

Optimize the Network.

↳ SGD

Gradient
Descent
Algos.

Optimisation



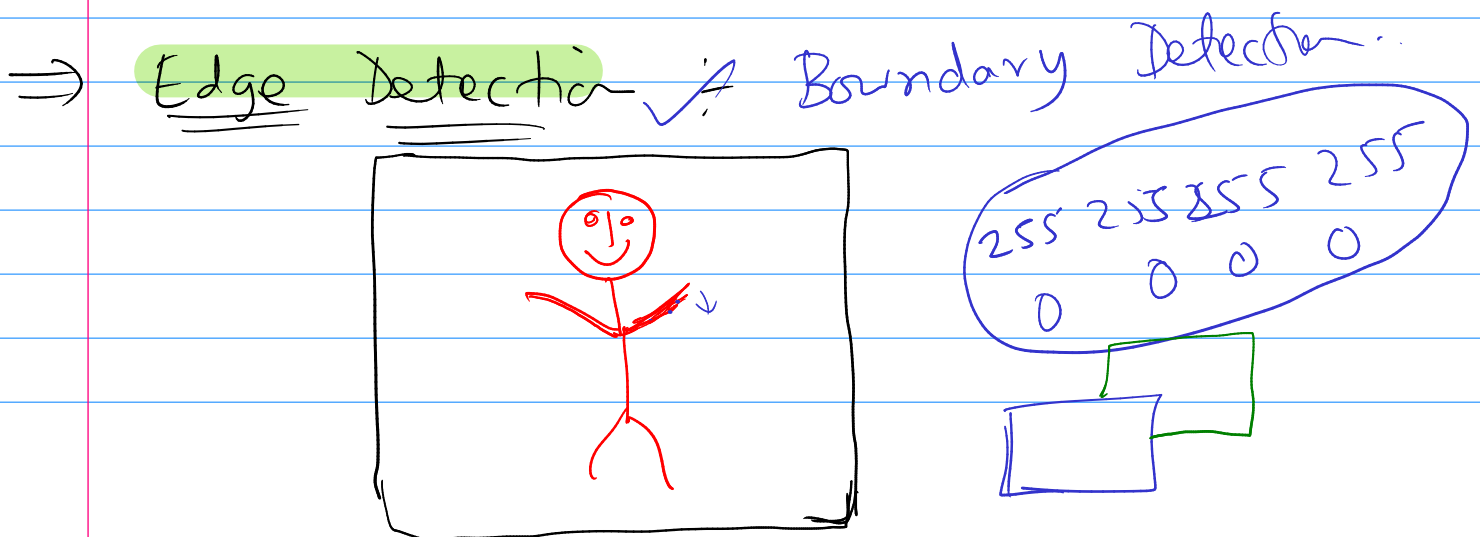
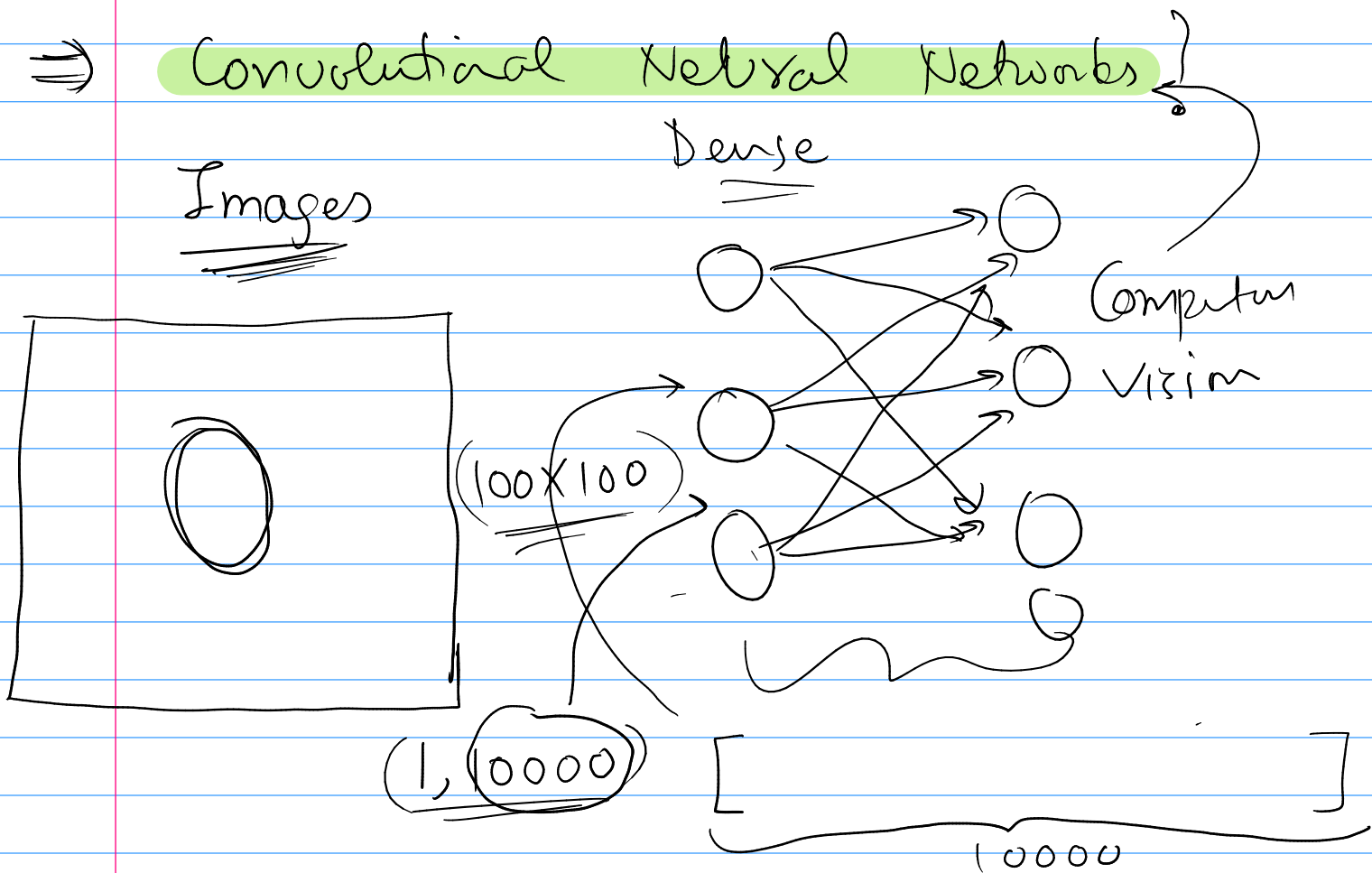
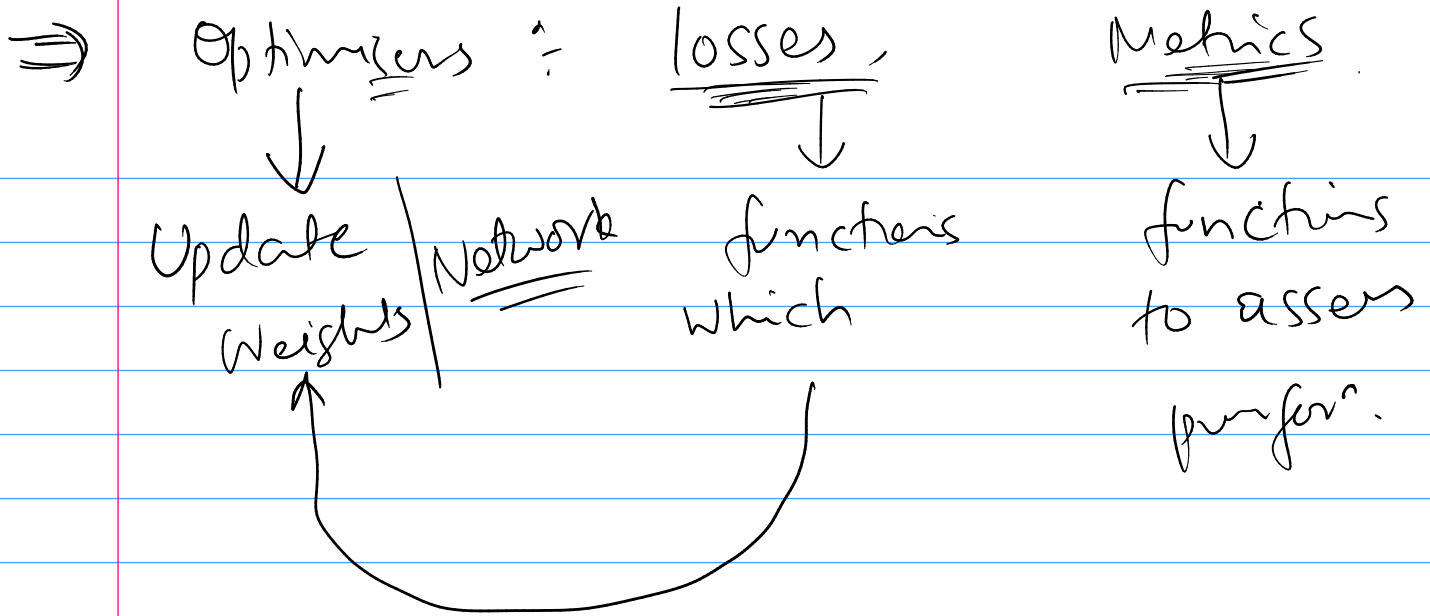
Training Set

Generalization



Testing
Set

⇒ Overfitting 4 Underfitting.



1

10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0

5x5

filters or kernels

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

3x3

Vertical Edge Detector

0	30	30	0
0	30	30	0
0	30	30	0
0	30	30	0

3x3

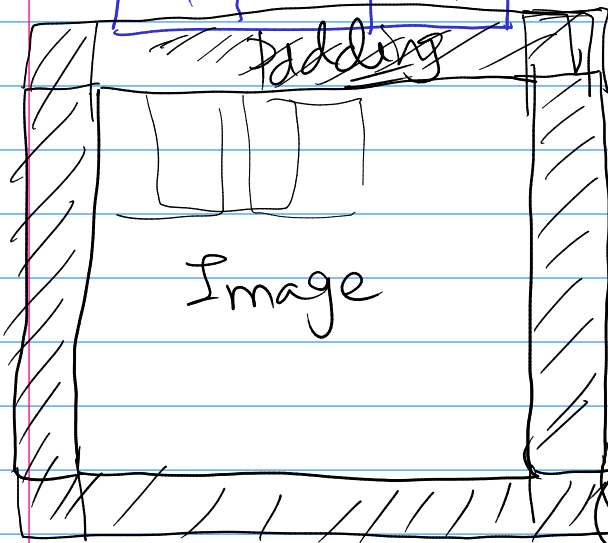
Feature Map.

Matrix for Horizontal Edge Detection?

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

Horizontal edge Detector

of parameters



Stride



3x3

5x5

28x28 \Rightarrow 26x26

2

padding

Max pooling

28x28

28x28

(2,2)