














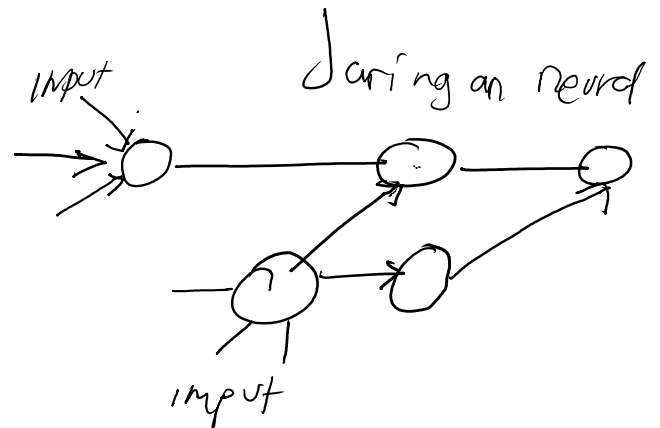
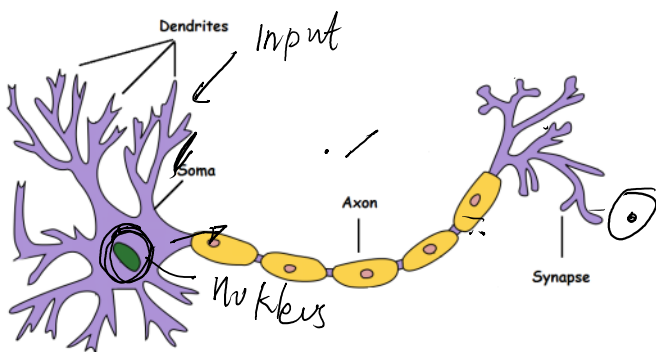


Pertemuan 2

Jumat, 15 September 2023 18.40

Daftar hadir 15 september 2023

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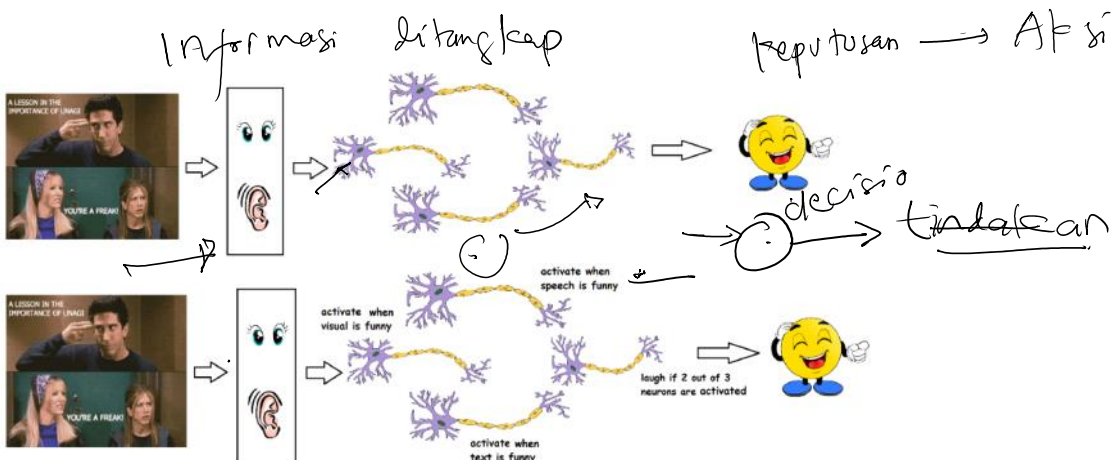


Dendrite: Menerima sinyal dari neuron lain

Soma: Mengolah Informasi

Axon: Mentransmisikan output

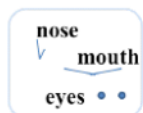
Synapse: titik koneksi dengan neuron lain



Layer 1: detect edges & corners

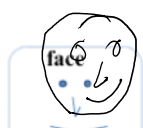
- peraba
- mata.

geometri



Layer 2: form feature groups

Featur..



Layer 3: detect high level objects, faces, etc.

↓
objek

→ kesimpulan

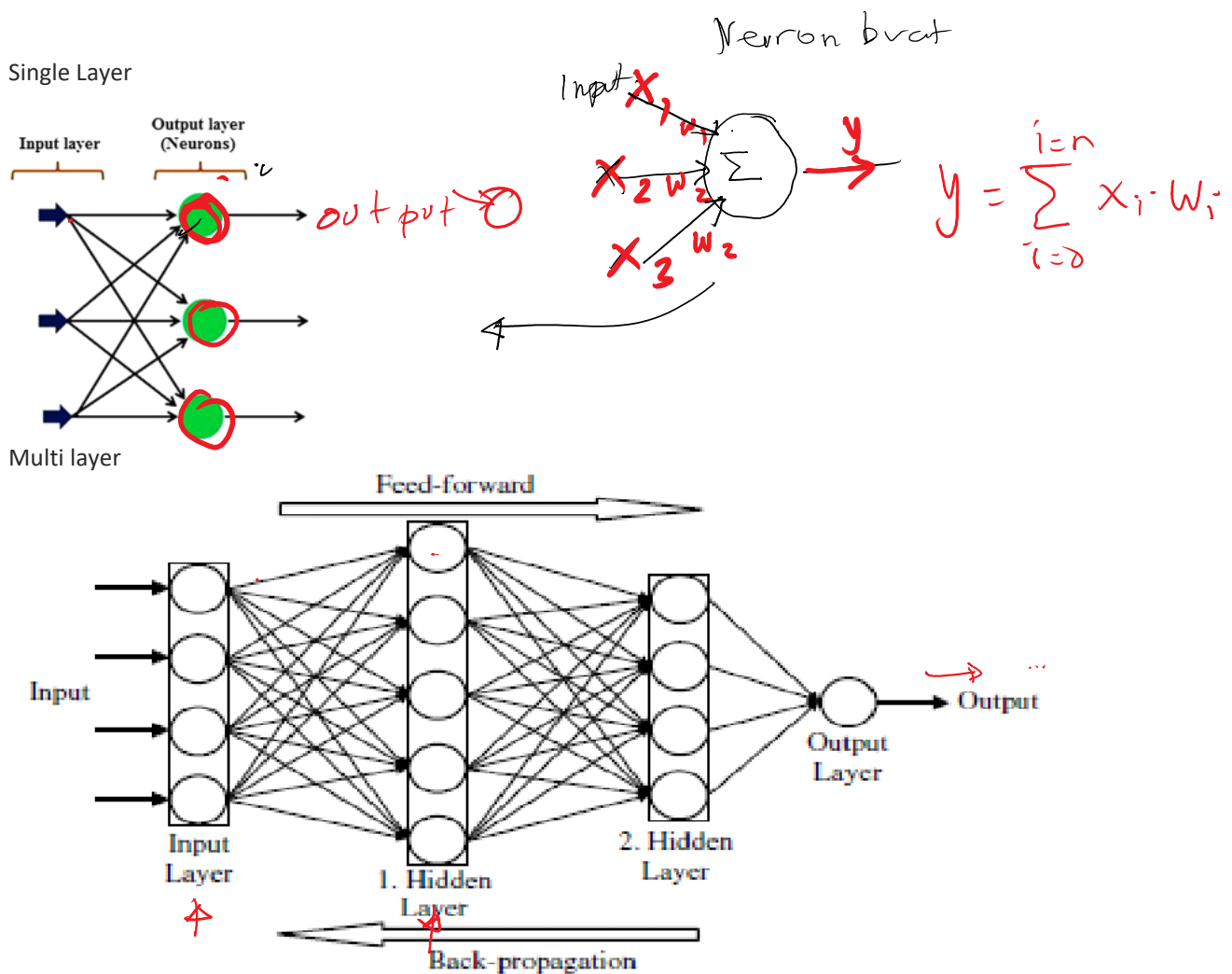
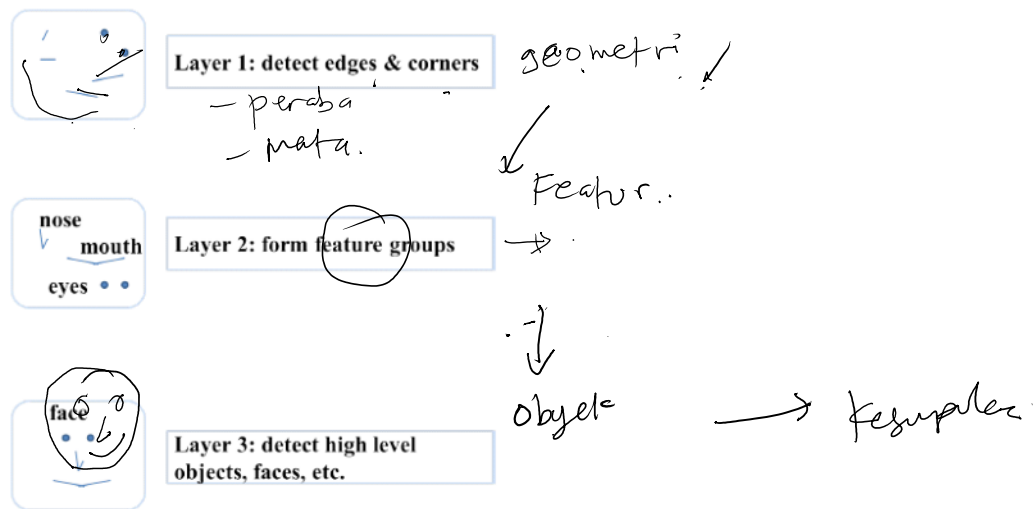


Figure 2: Architecture of a multilayer neural network

Bias dan Threshold

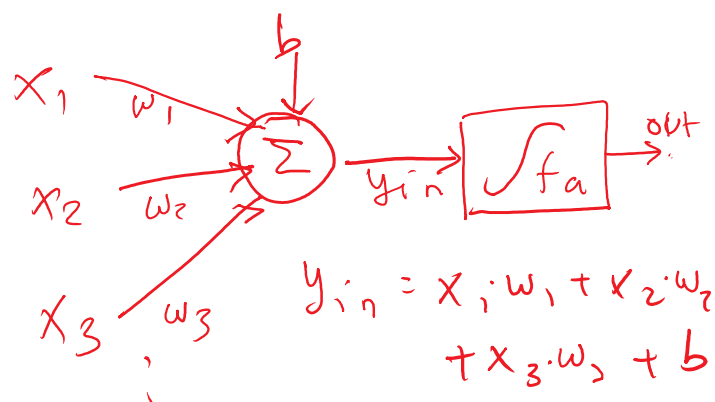
Linear sperability

$$y_{in} = b + \sum_i x_i w_i$$

Untuk output dengan jawaban ya/tidak, respon di tentukan dengan Nilai output 0 atau 1

$$b + \sum_i x_i w_i = 0$$

Y in ditentukan dengan $y_{in} > 0$ atau $y_{in} < 0$



$$b + \sum_i x_i w_i = 0$$

Y in ditentukan dengan $y_{in} > 0$ atau $y_{in} < 0$

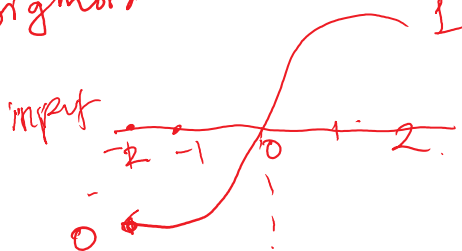
Persamaan garis pembatas:

$$x_2 = -\frac{w_1}{w_2} x_1 - \frac{b}{w_2}$$

Bias : bobot untuk input dengan nilai selalu 1

Fungsi Aktifasi →

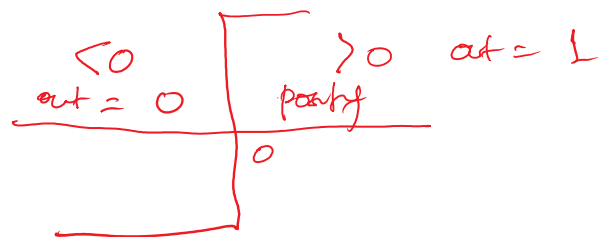
Sigmoid



neuron → difungsikan.

output selalu -

threshold = 0

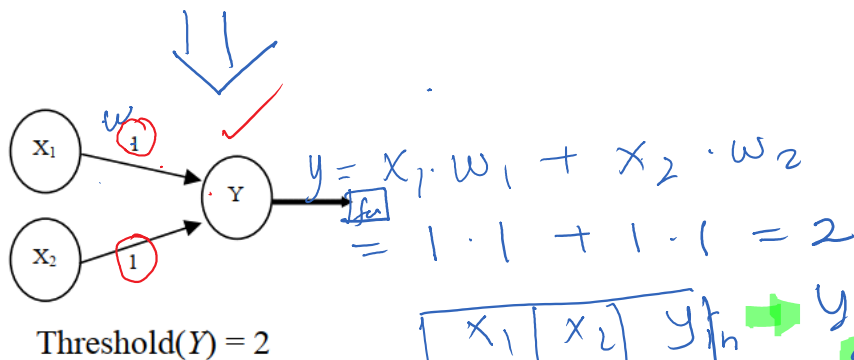
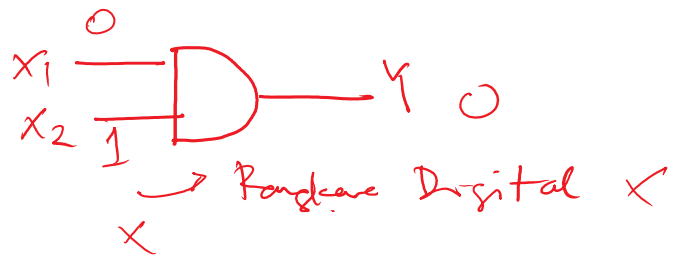


$$x_3 \cdot w_3 + \dots + x_n \cdot w_n + b$$

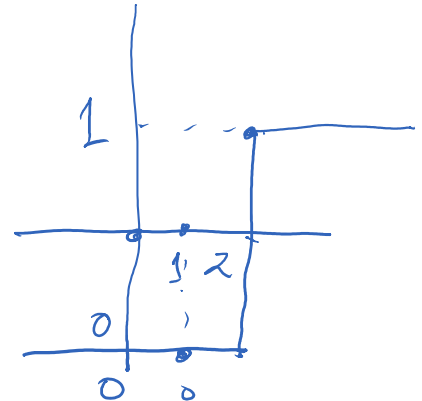
Contoh :
OPERASI AND

X1	X2	Y
1	1	1
1	0	0
0	1	0
0	0	0

OR
1
1
1
0



X1	X2	y _{in}	y _{out}
1	1	2	1
1	0	1	0
0	1	1	0
0	0	0	0



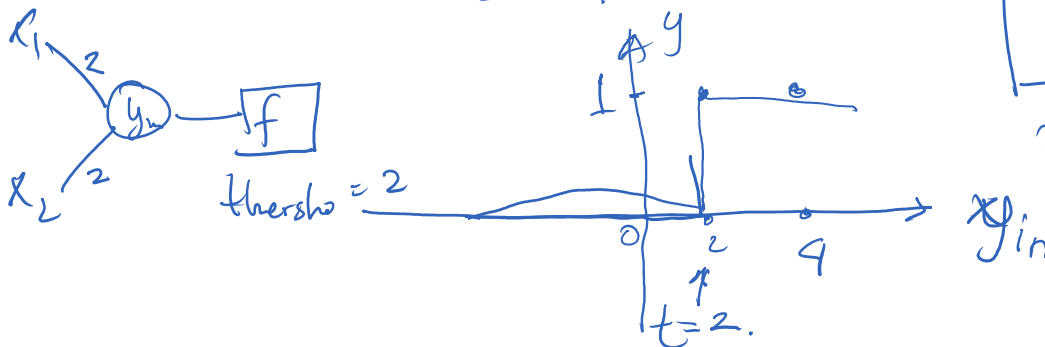
bobot = 2

$$y = x_1 \cdot w_1 + x_2 \cdot w_2$$

$$= x_1 \cdot 2 + x_2 \cdot 2$$

x1	x2	y _{in}	y
1	1	4	1
1	0	2	1
0	1	2	1
0	0	0	0

thres 1



X = ...
w = ...
z → matematis unit

→ representasi matriks

$$y_{in} = \sum x_i \cdot w_i + b$$

↑
can
input
berapa? → algoritma

Input

output / target

Input
 $x_1 \ x_2 \ \dots \ x_n$

output / target

$y_{in} \rightarrow f_a \rightarrow y$

w

Dataset :

$$x_1[w_1] + x_2[w_2] + x_3[w_3] + x_4[w_4]$$

Harga Motor.

4 Banyas

	x_1 merk	x_2 umur	x_3 cc	x_4 km	Harga.
Training	beat → 1	9th	125	13.000	11jt
	beat → 1	2th	125	500	20jt
	vario 2	3th	125	6000	→ ? ✓

$(w_1), (w_2) = ?$

Mesin.

→ menentukan bobot → algoritma

AI

$$\begin{aligned} 3x + 4y + 5z &= 2 \\ 3x + 6y + 7z &= 10 \end{aligned} \quad \begin{aligned} &\rightarrow \text{aljabar linier} \\ &\rightarrow \end{aligned}$$

Supervise learning. $x = y = z =$

MATRIX, Regresi, Statistik