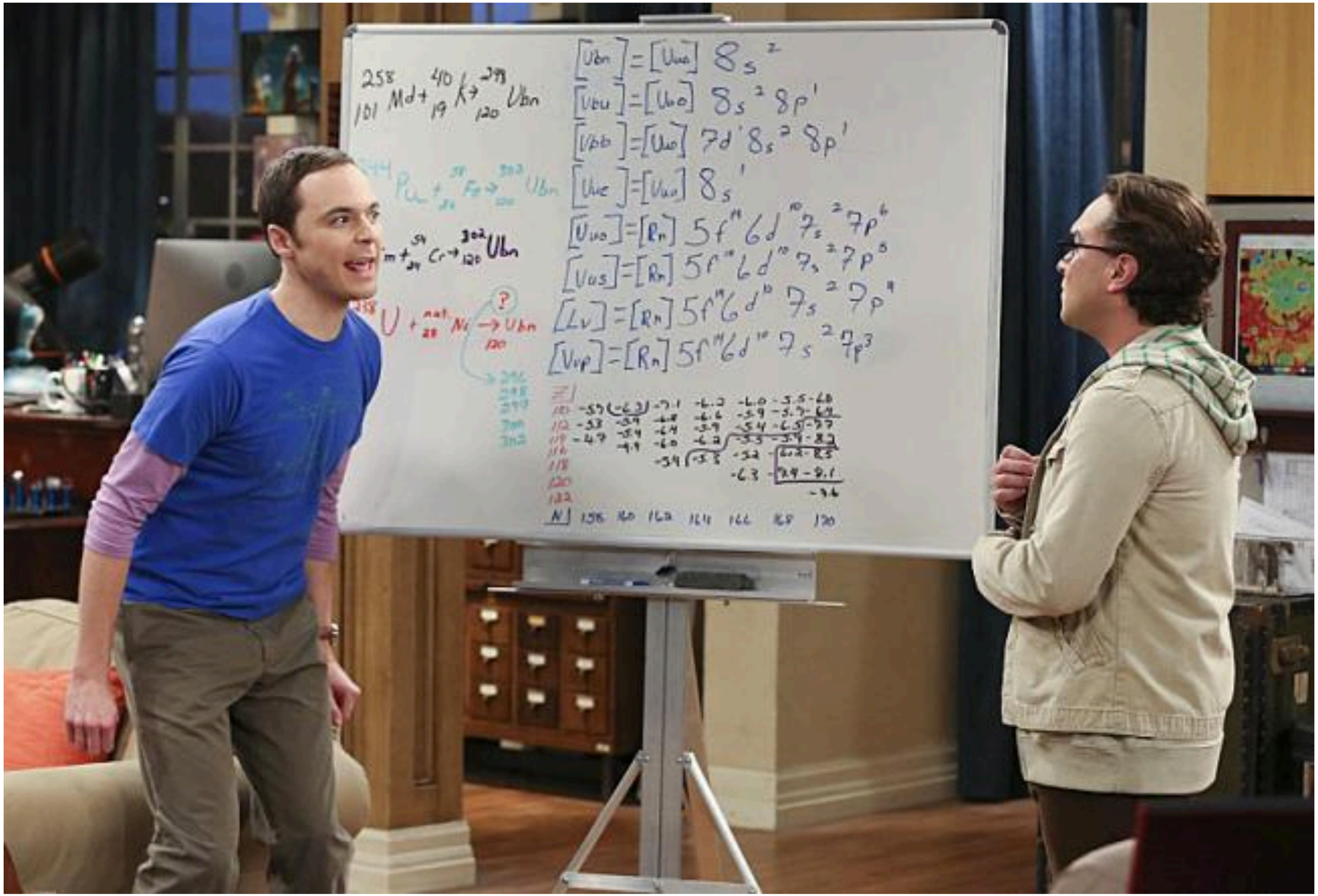
Maskinlæring 101

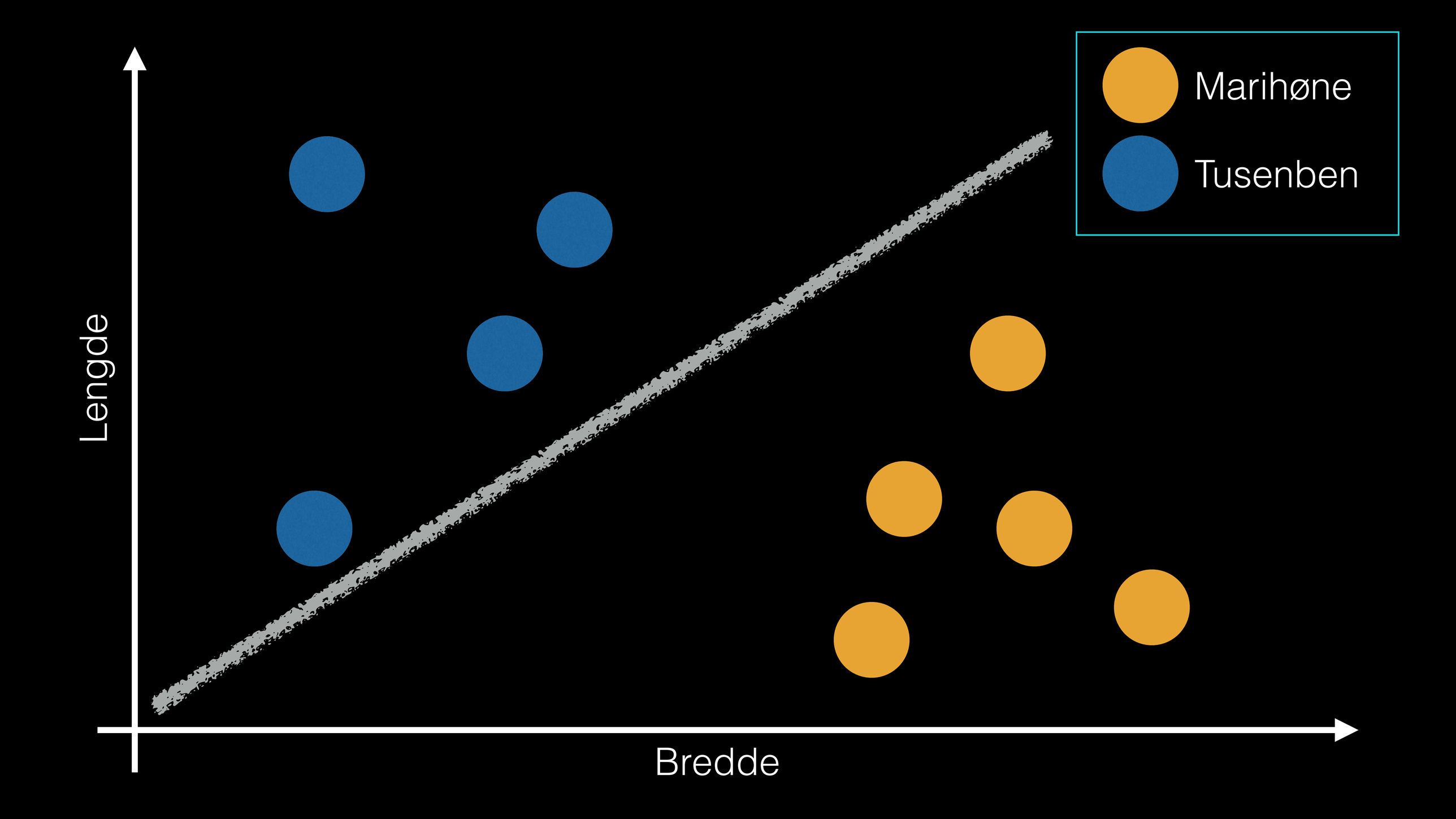
Torkil Aamodt og Ole-Martin Mørk

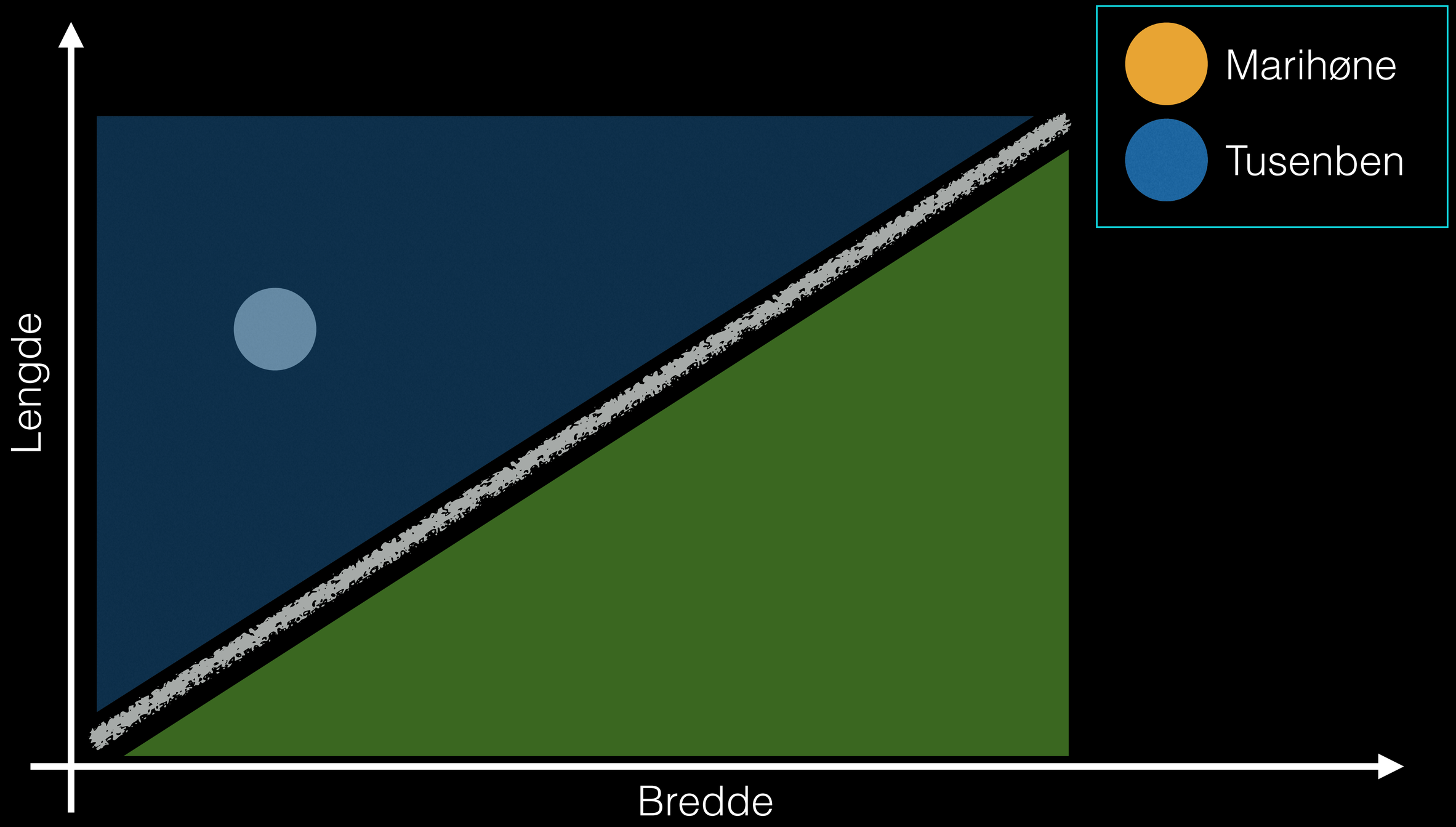

[Ubn] = [Uuo] 8s²
[Ubu] = [Uuo] 8s² 8p¹
[Ubb] = [Uuo] 7d¹ 8s² 8p¹
[Ube] = [Uuo] 8s¹
[Uuo] = [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁶
[Uus] = [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁵
[Lv] = [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁴
[Uup] = [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p³

OMG WTF!?!
Knock First!!!

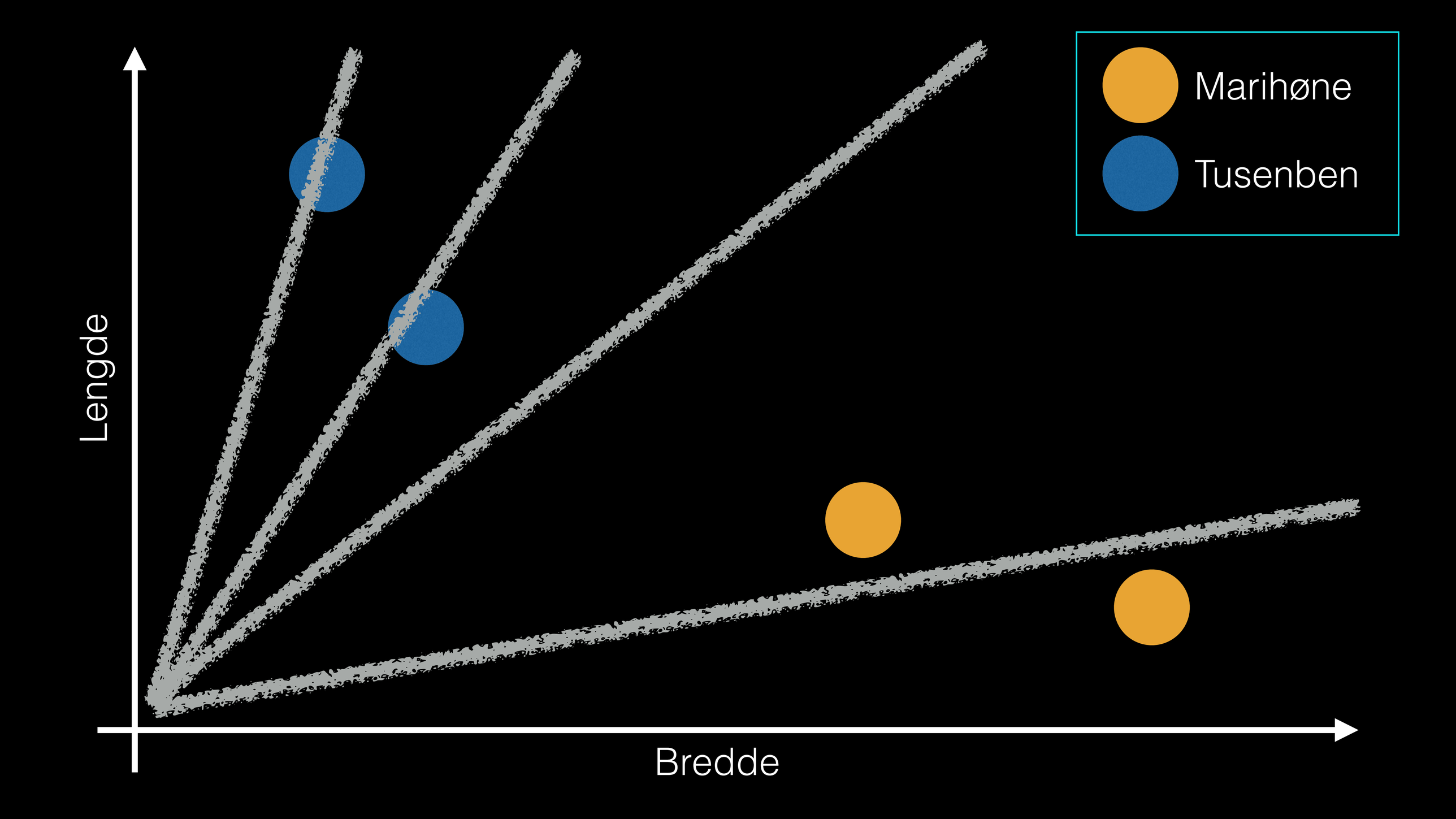
Klassifisering

vs


Marihøne
Tusenben
Lengde
Bredde


Marihøne
Tusenben
Lengde
Bredde

Trening


Marihøne
Tusenben
Lengde
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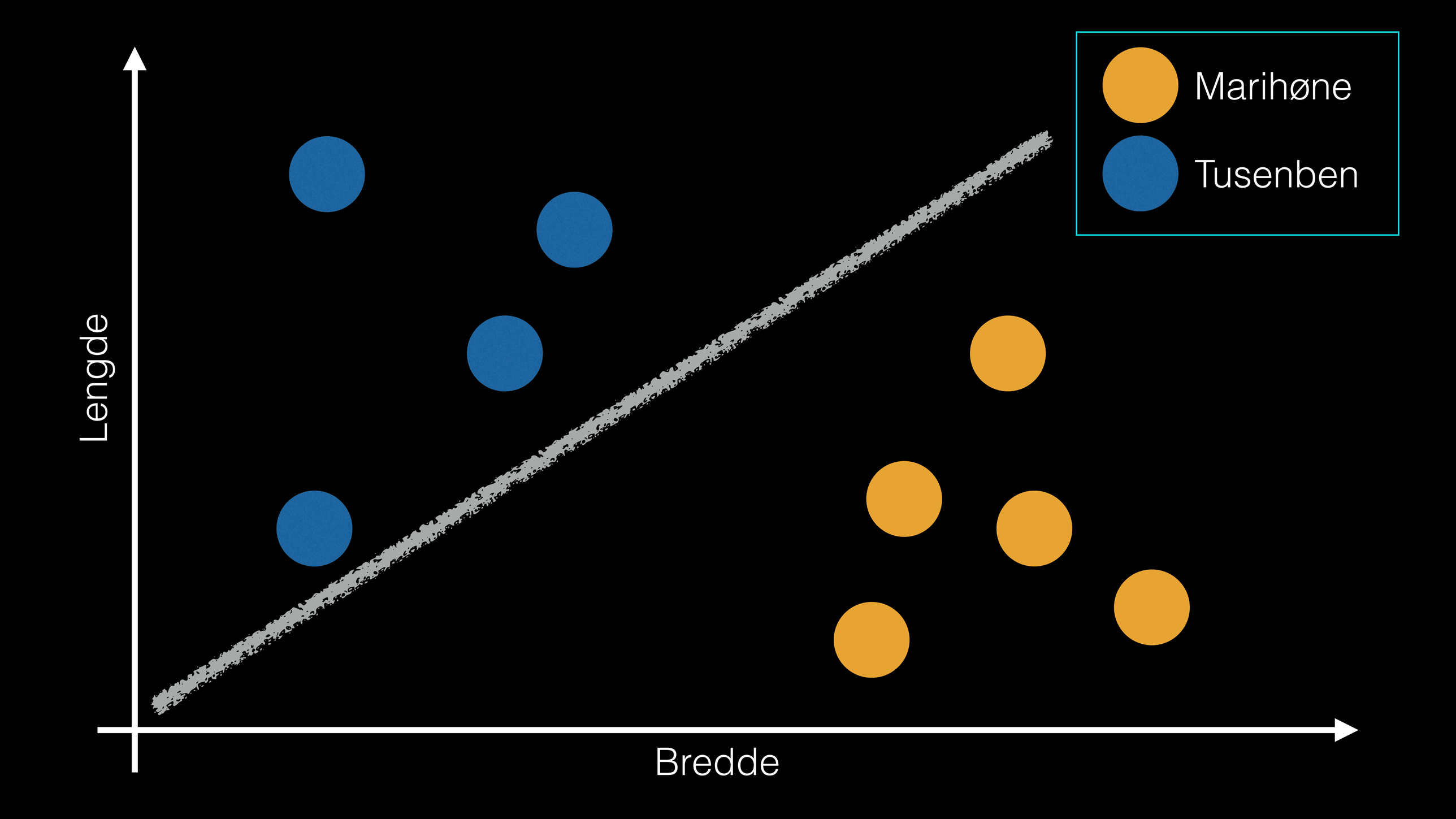
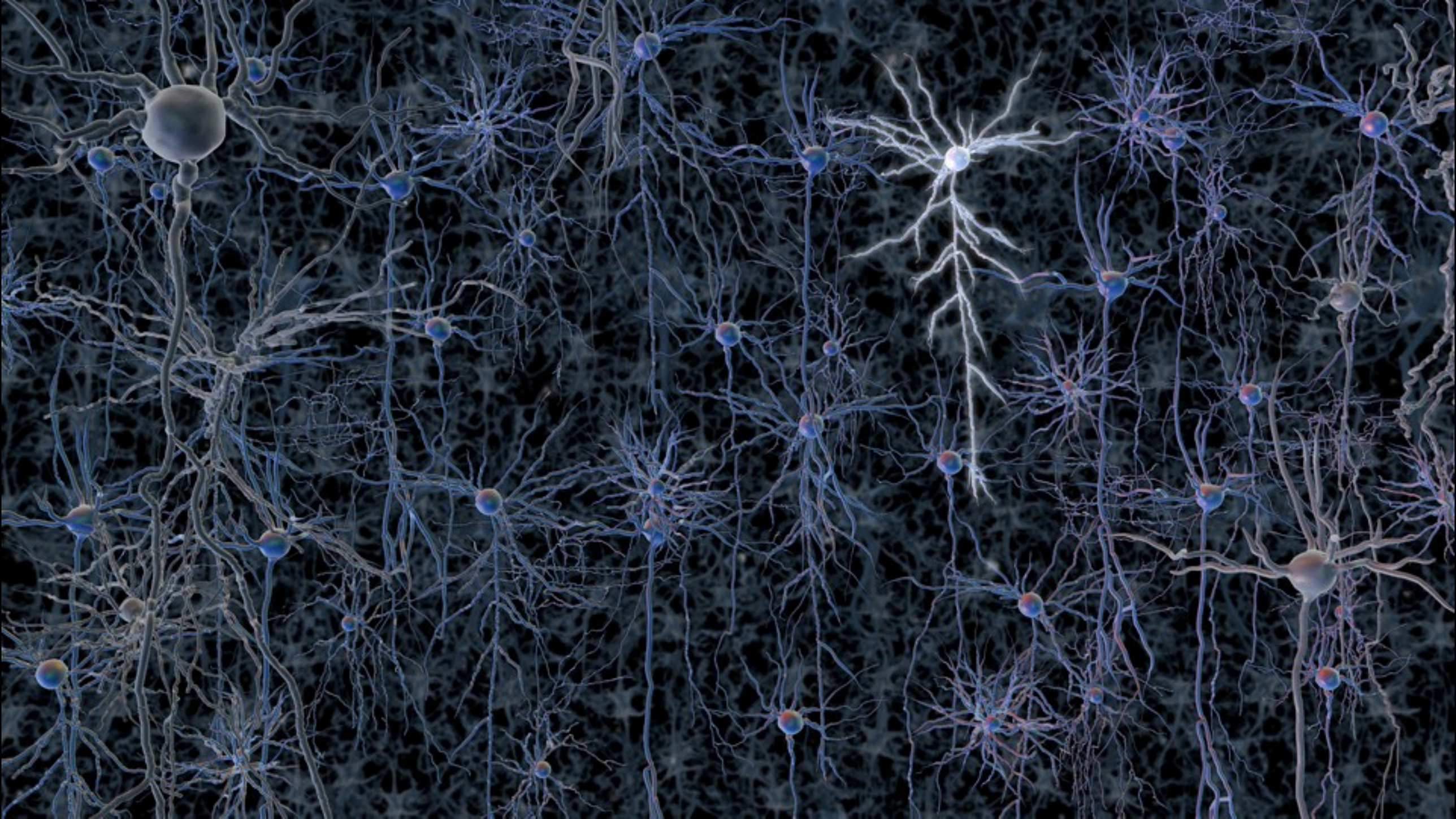
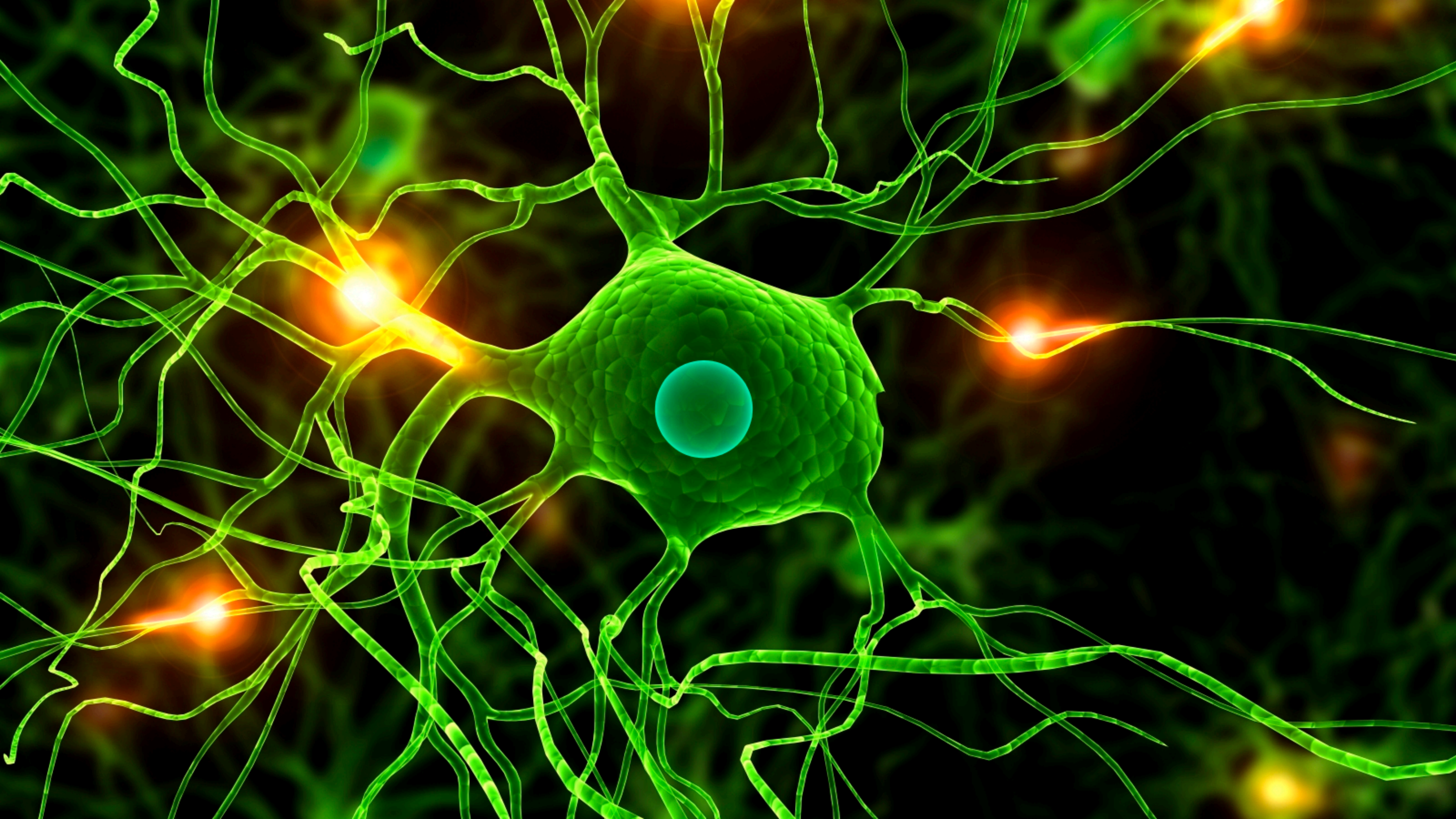
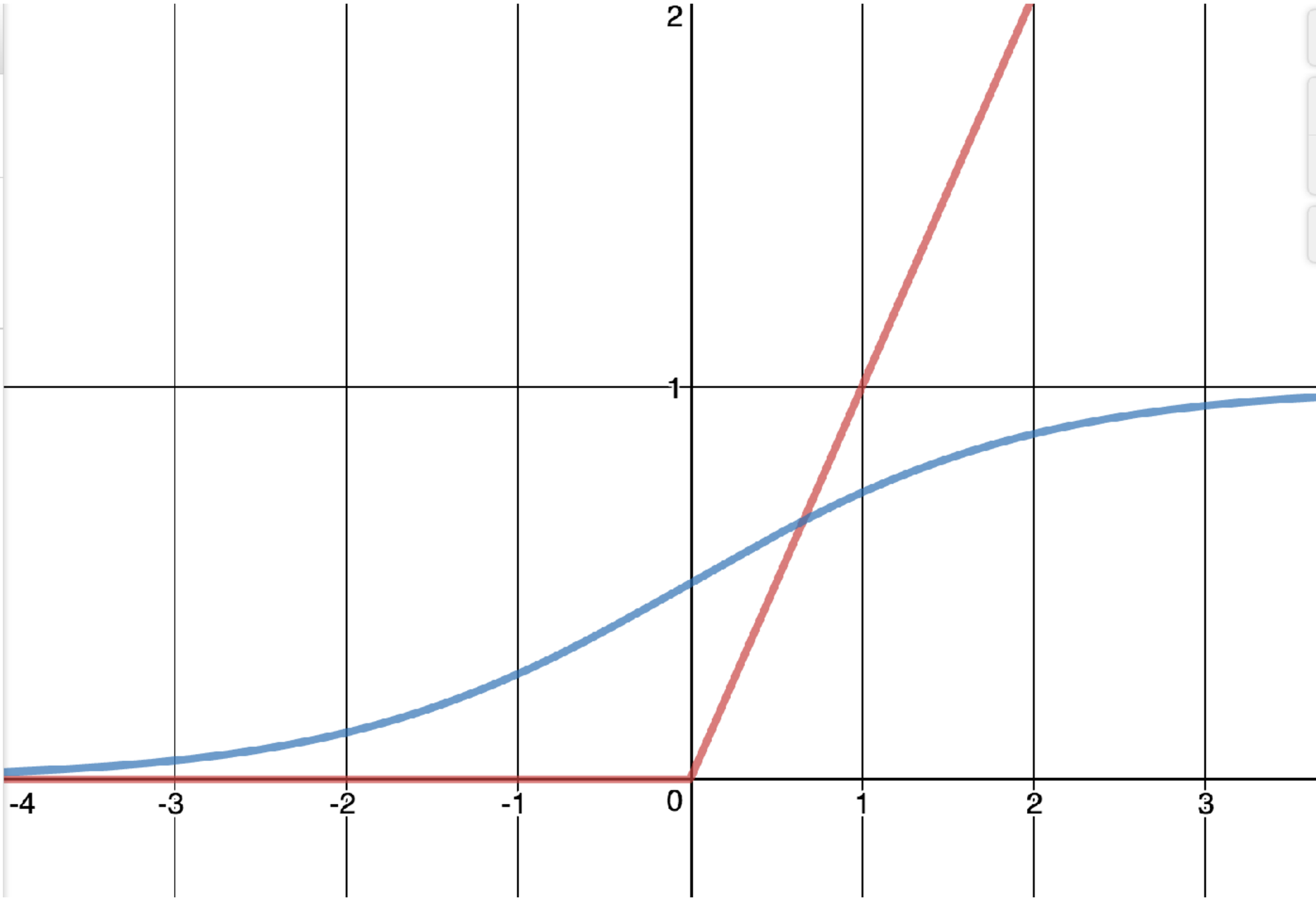

Marihøne
Tusenben
Lengde
Bredde

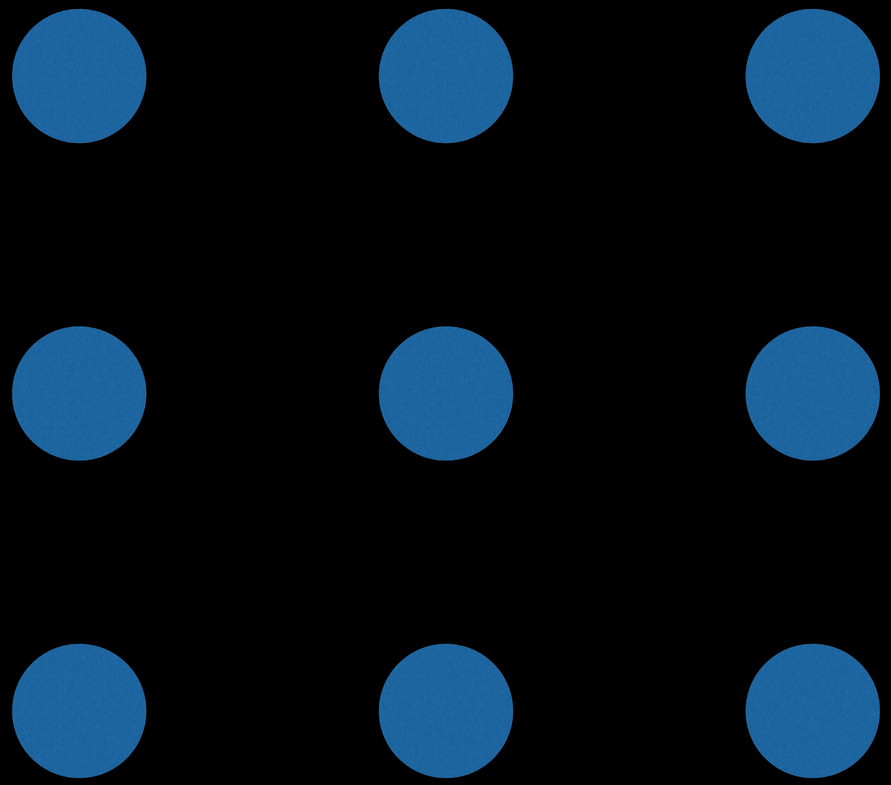


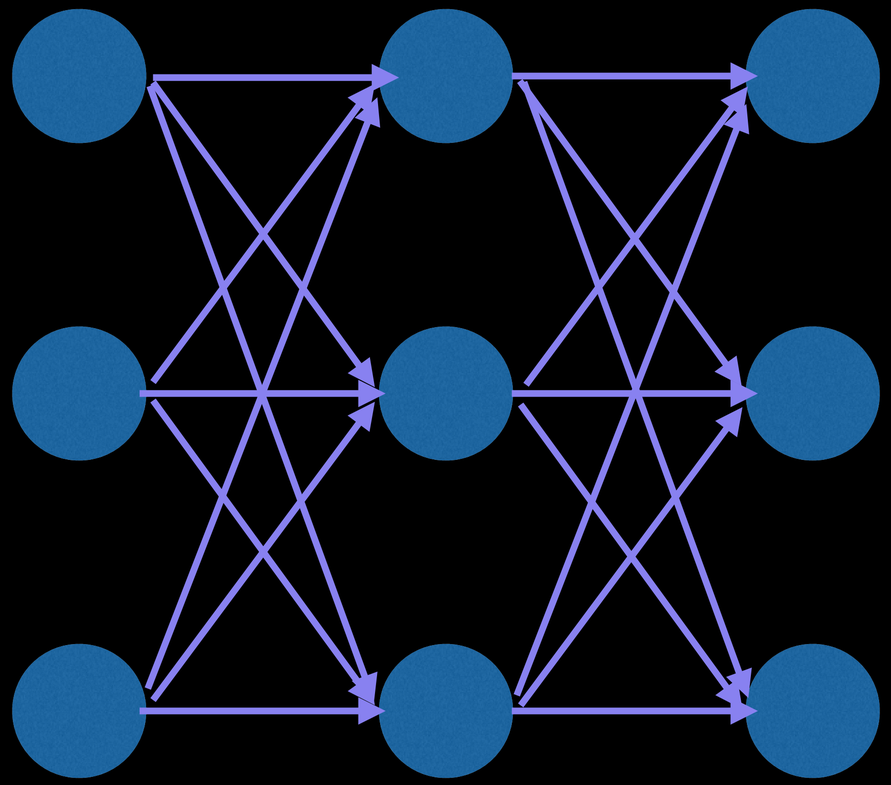


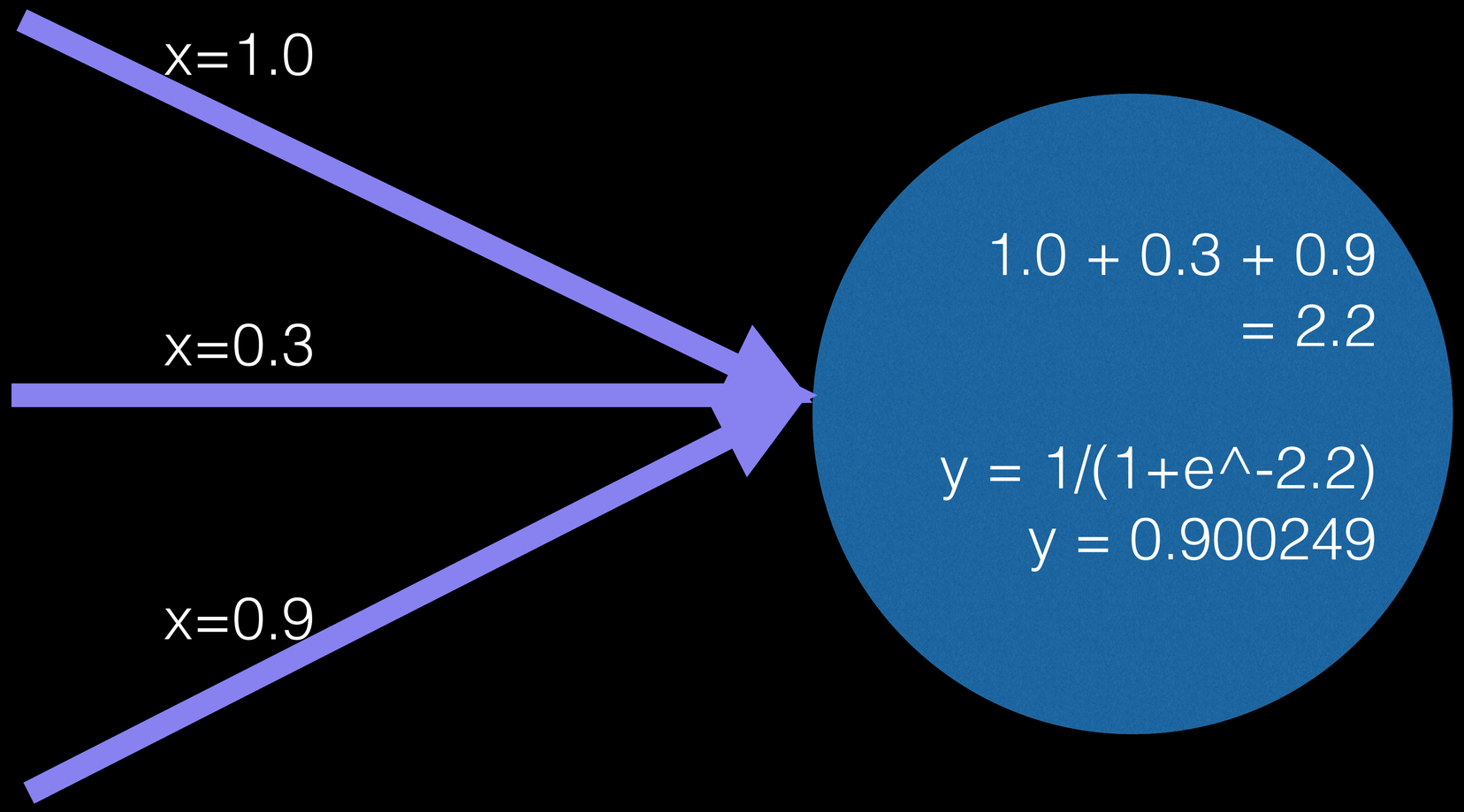
$$y = \max(0, x)$$

$$y = \frac{1}{1 + e^{-x}}$$

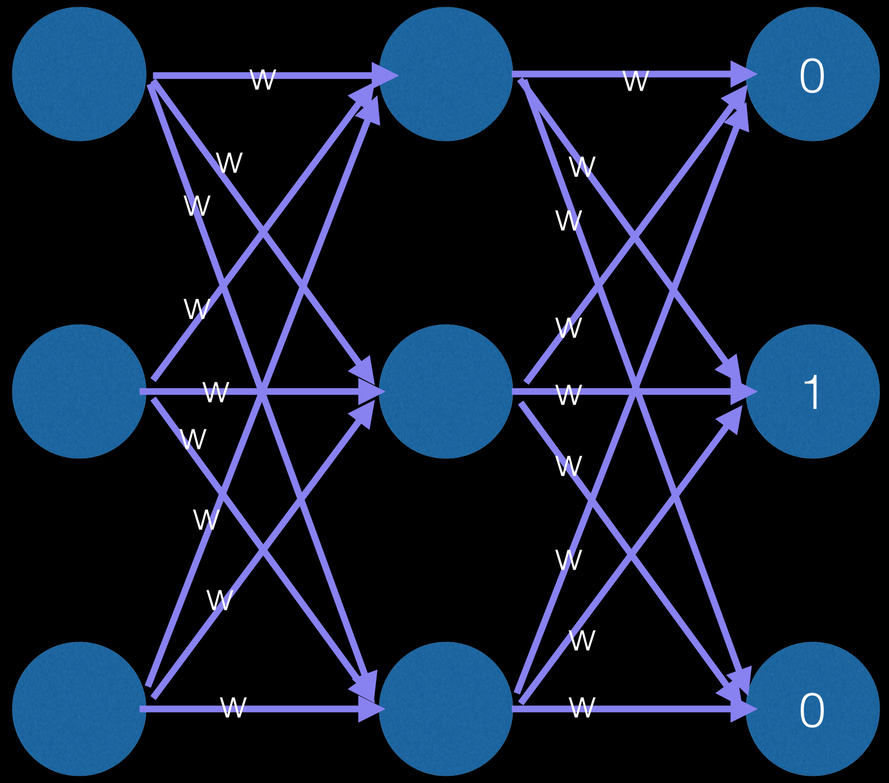


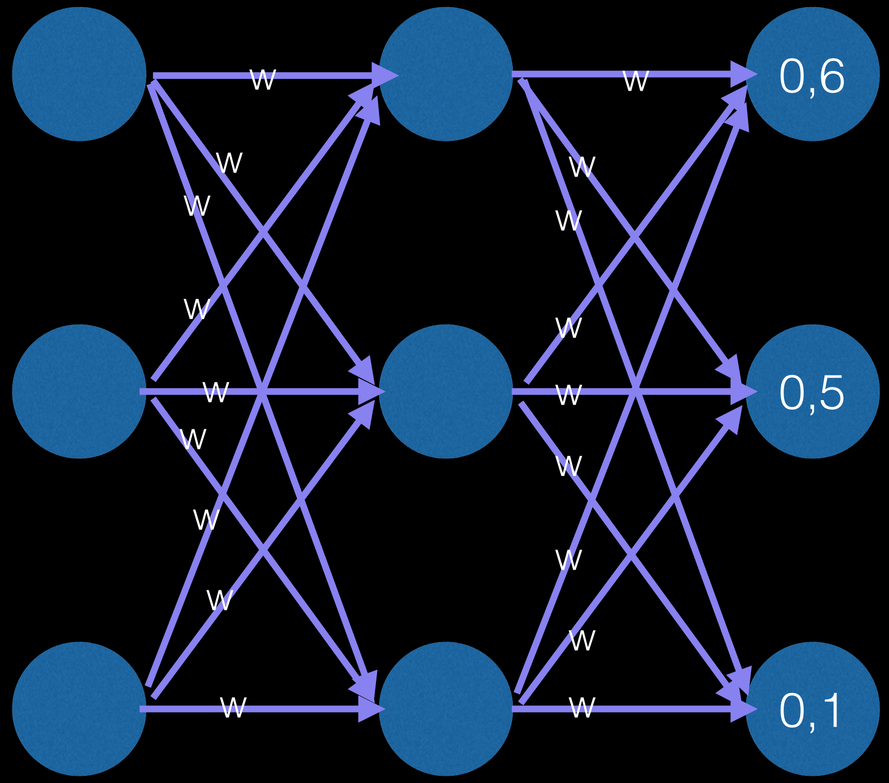


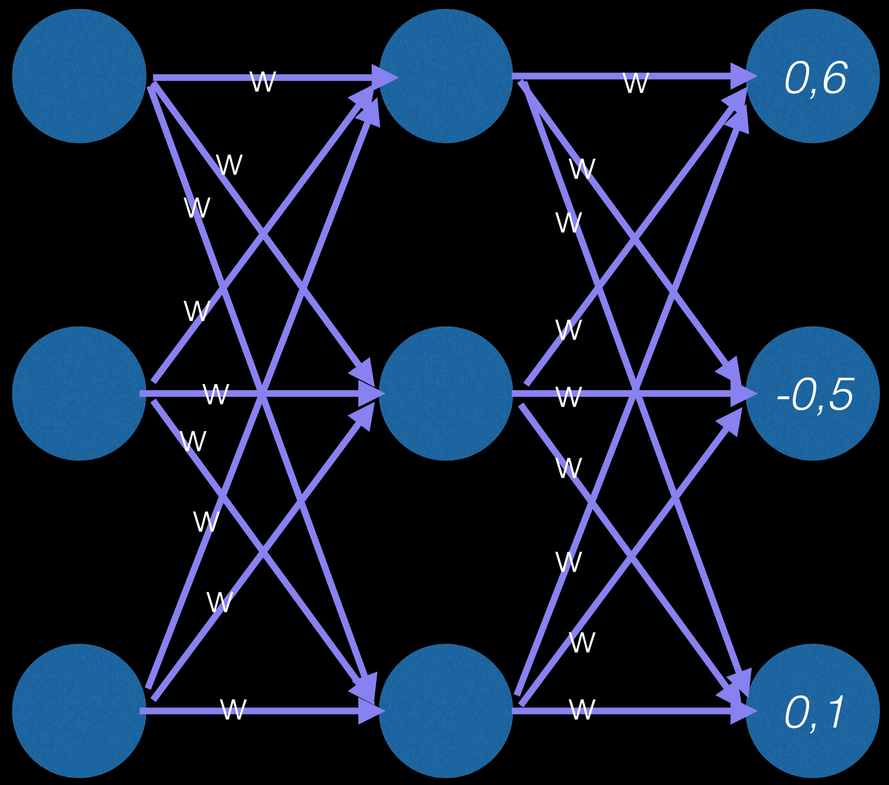


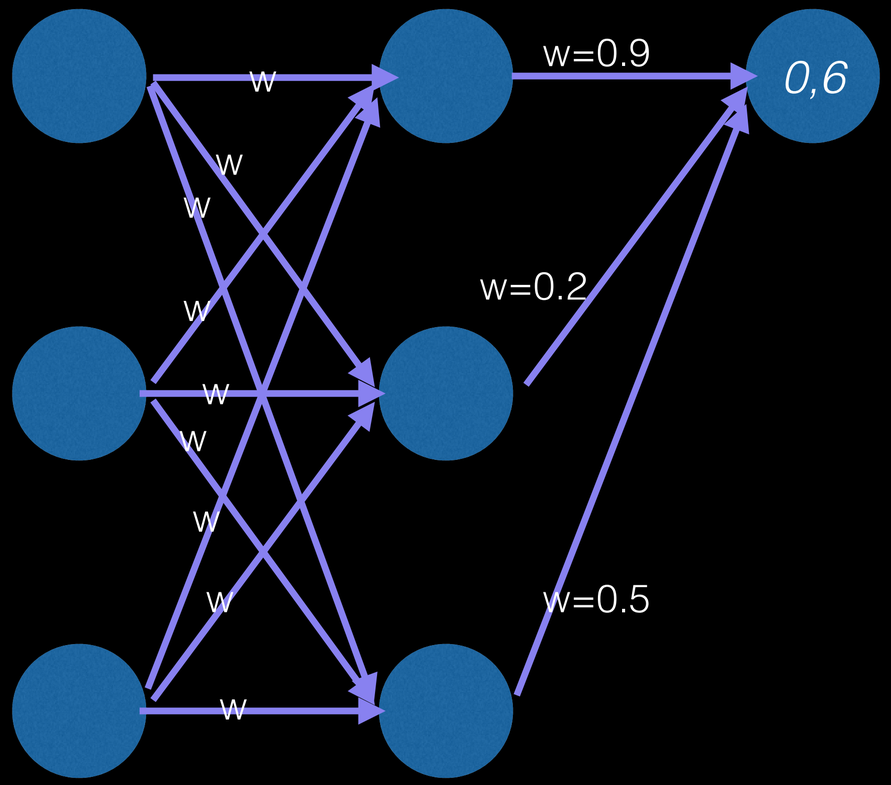

x=1.0
x=0.3
x=0.9
1.0 + 0.3 + 0.9
= 2.2
y = 1/(1+e^-2.2)
y = 0.900249

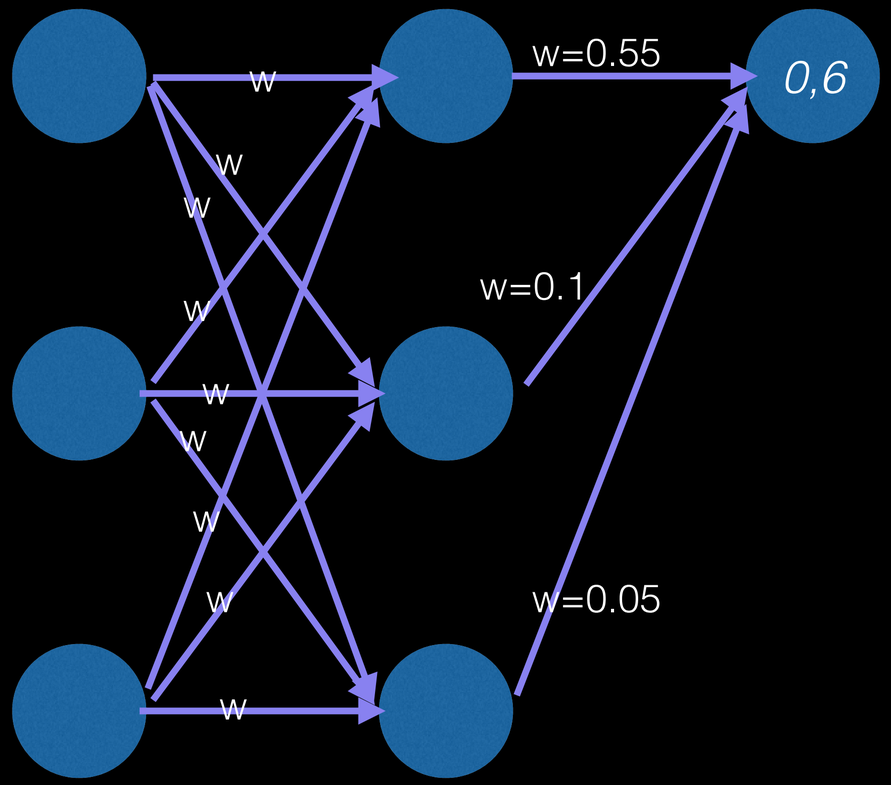
TRAINING
makeameme.org

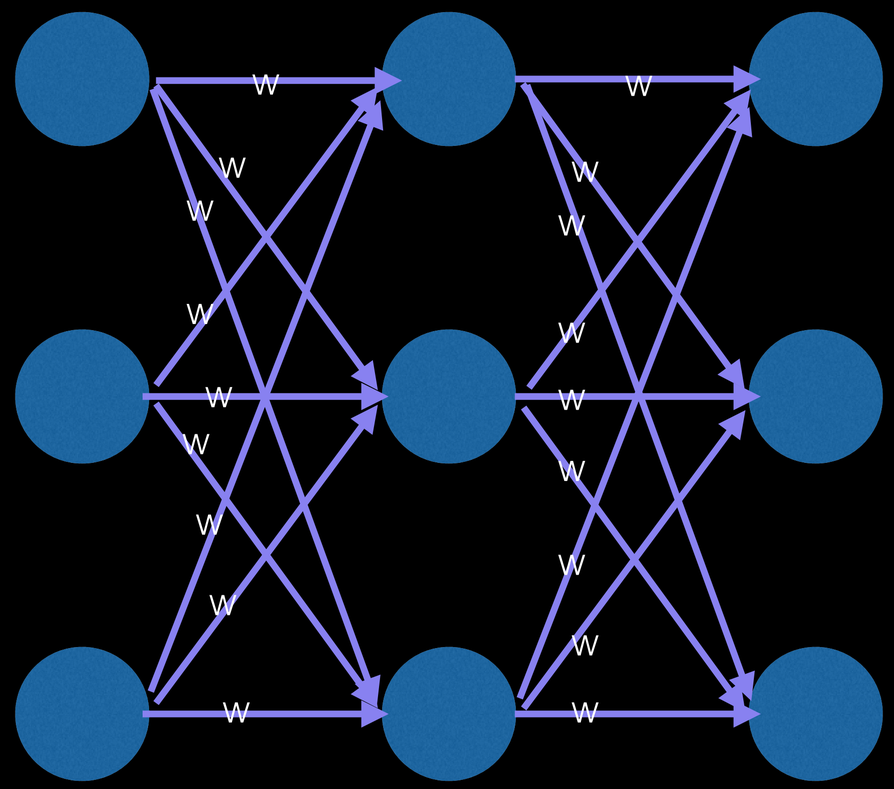

w
0
1
0

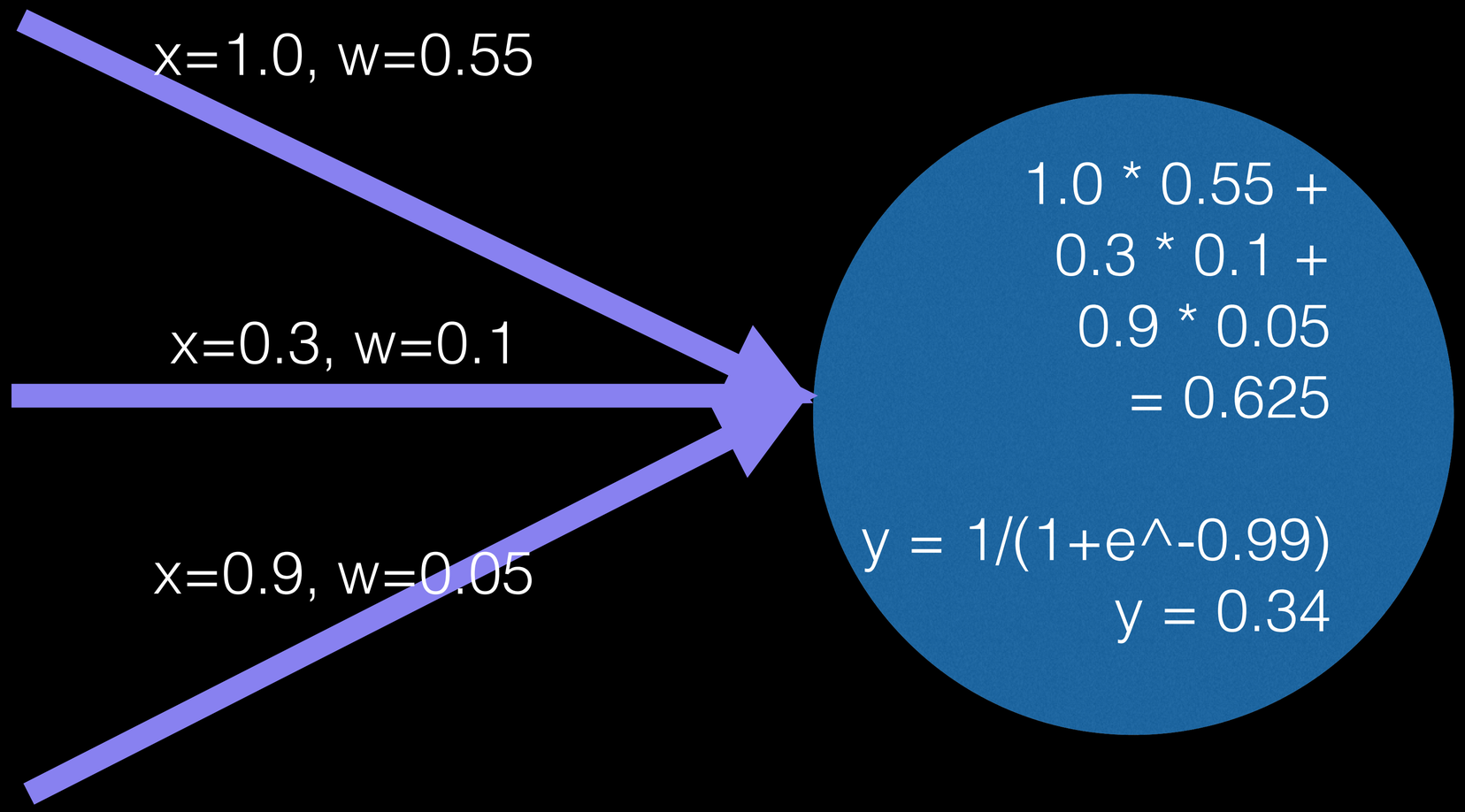

w
0,6
0,5
0,1

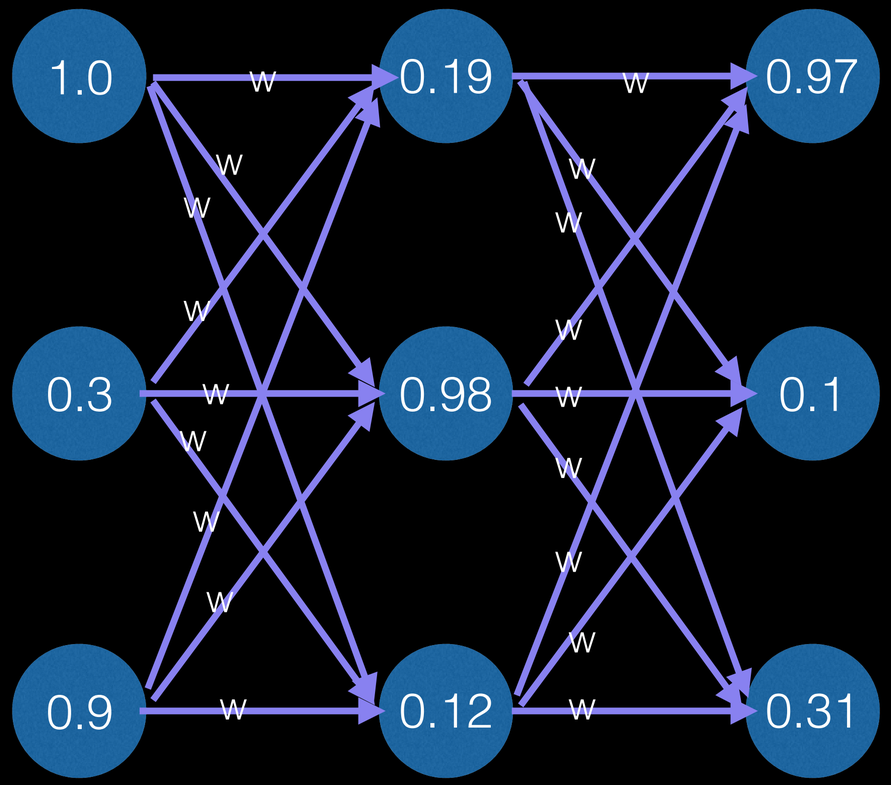

w
0,6
-0,5
0,1

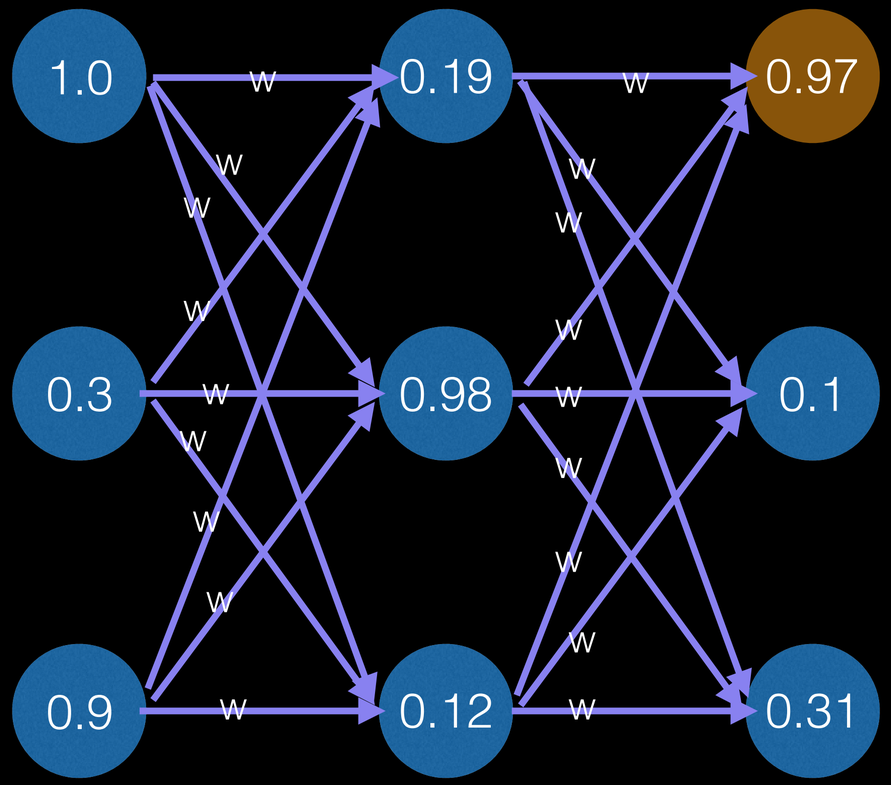

w
w
w
w
w
w
w
w
w
w=0.9
w=0.2
w=0.5
0,6


w
w
w
w
w
w
w
w
w
w=0.55
w=0.1
w=0.05
0,6


W
W
W
W
W
W
W
W
W
W
W
W
W
W
W
W
W
W


x=1.0, w=0.55
x=0.3, w=0.1
x=0.9, w=0.05
1.0 * 0.55 +
0.3 * 0.1 +
0.9 * 0.05
= 0.625
y = 1/(1+e^-0.99)
y = 0.34


1.0
0.3
0.9
0.19
0.98
0.12
0.97
0.1
0.31
w


1.0
0.3
0.9
0.19
0.98
0.12
0.97
0.1
0.31
w

Oppsummert

- Nevrale nettverk har nevroner
- Nevroner har mange inputs og én output
- Nevroner bruker en aktiveringsfunksjon til å beregne output
- Vektene justeres gjennom opplæring av nettverket