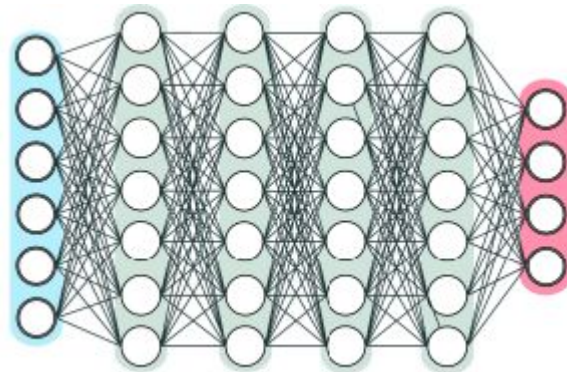
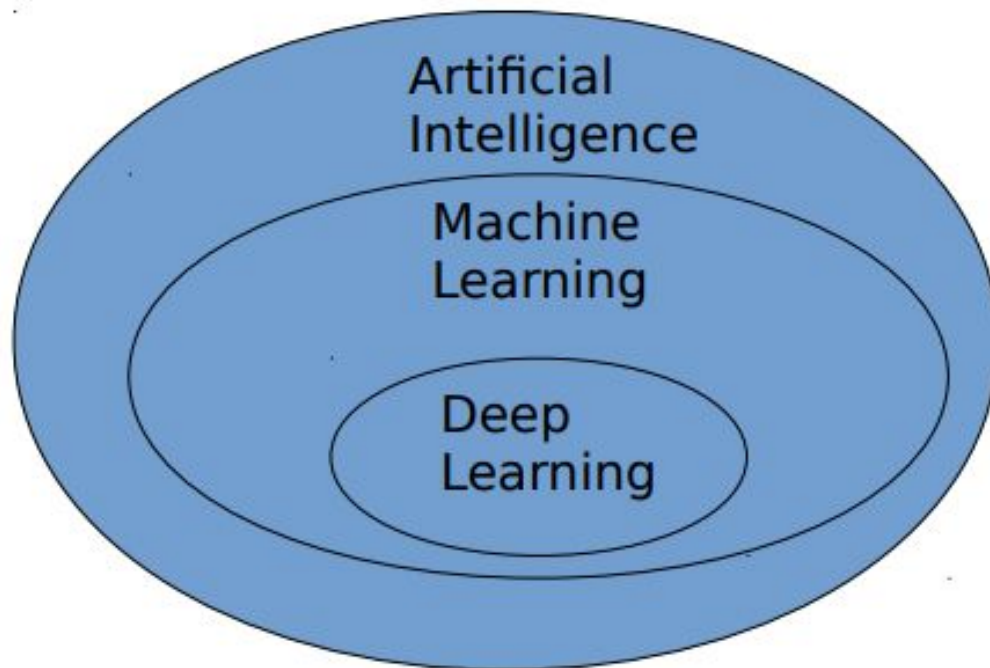




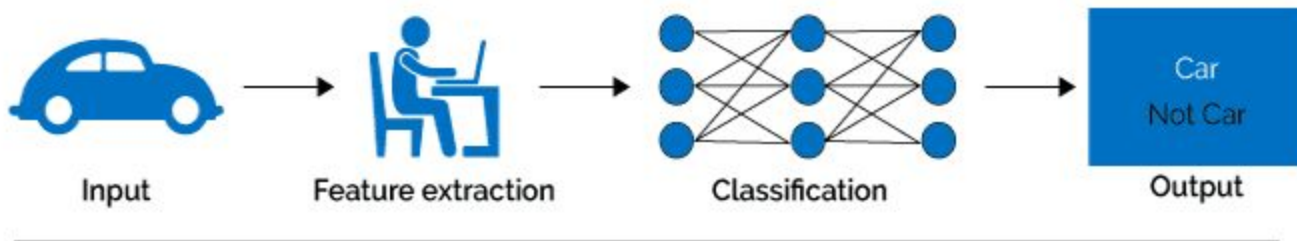
Czy przemysł nadąży za AI?

Głębokie sieci neuronowe

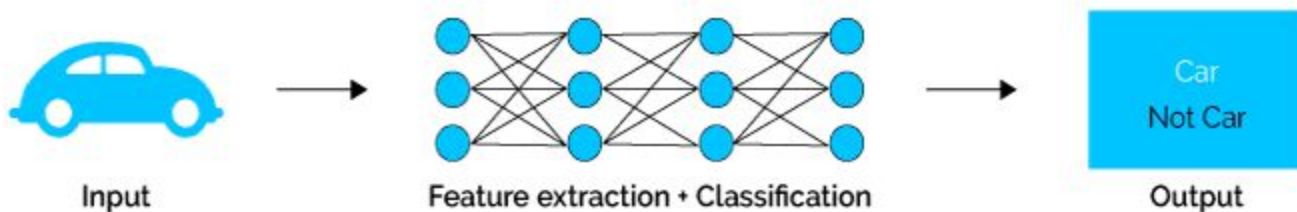


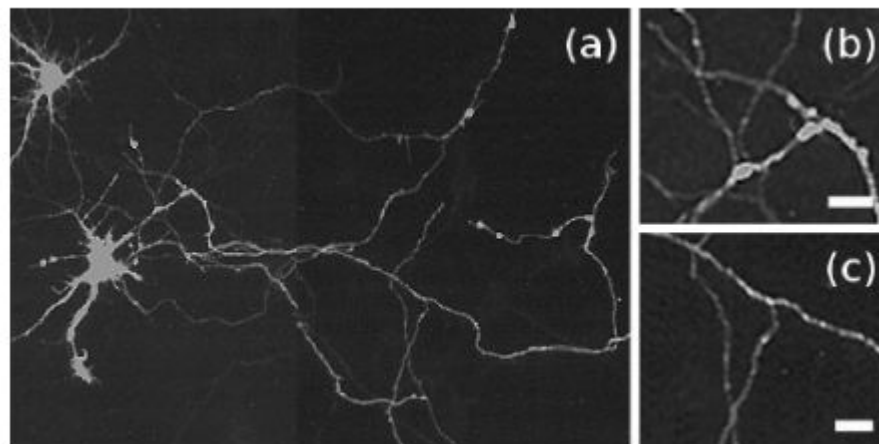
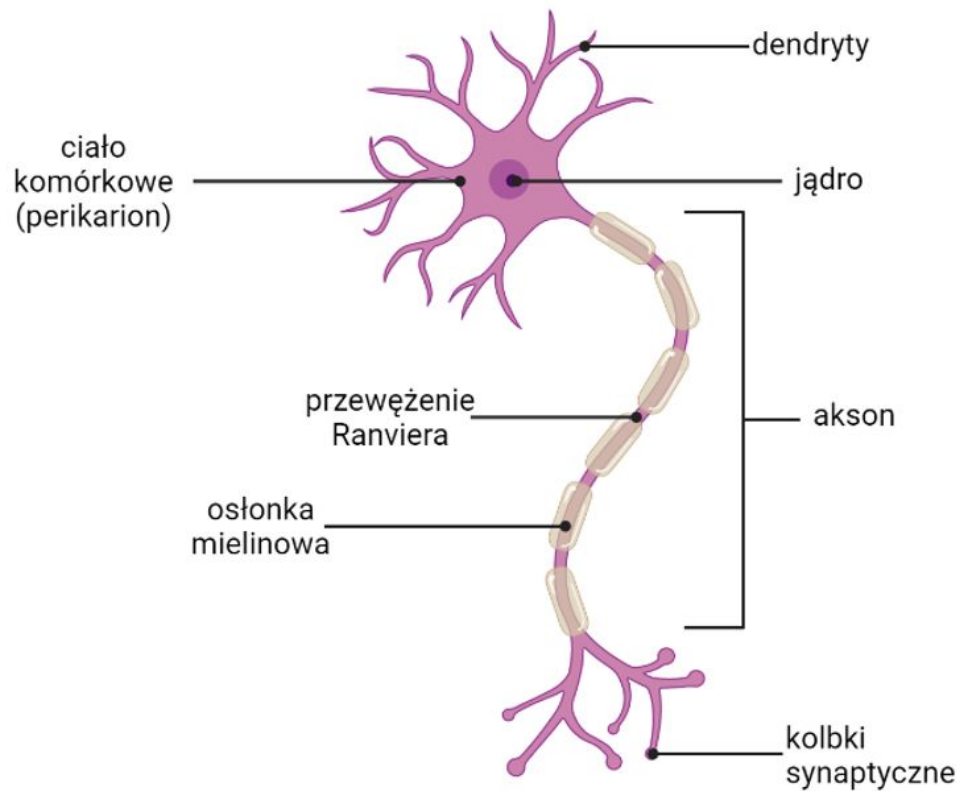


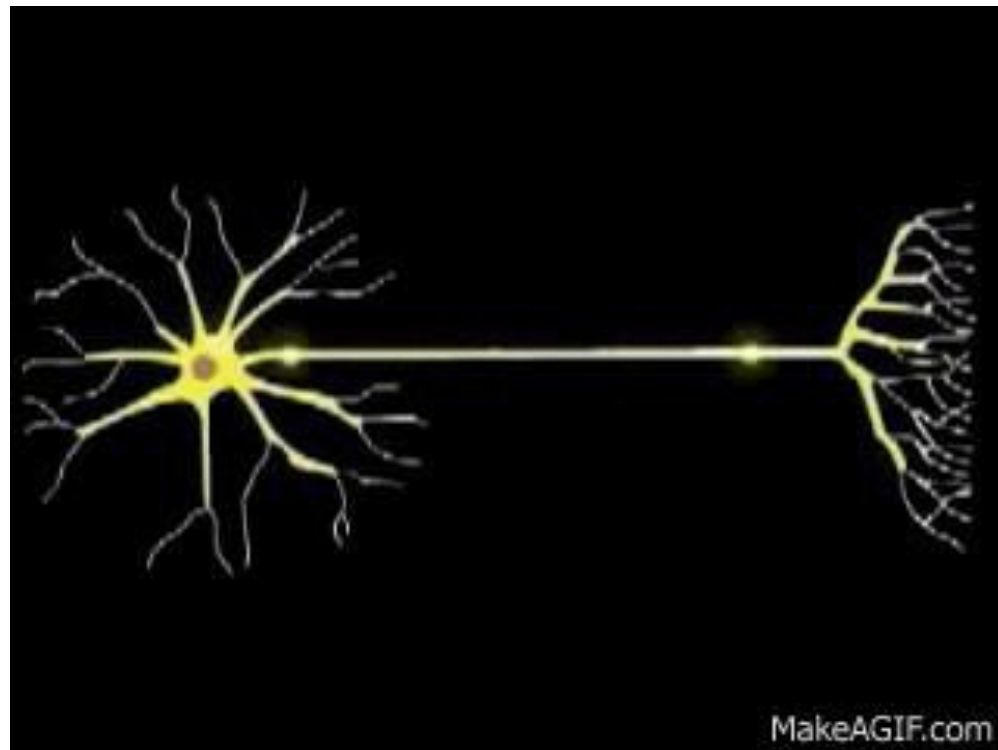
Machine Learning



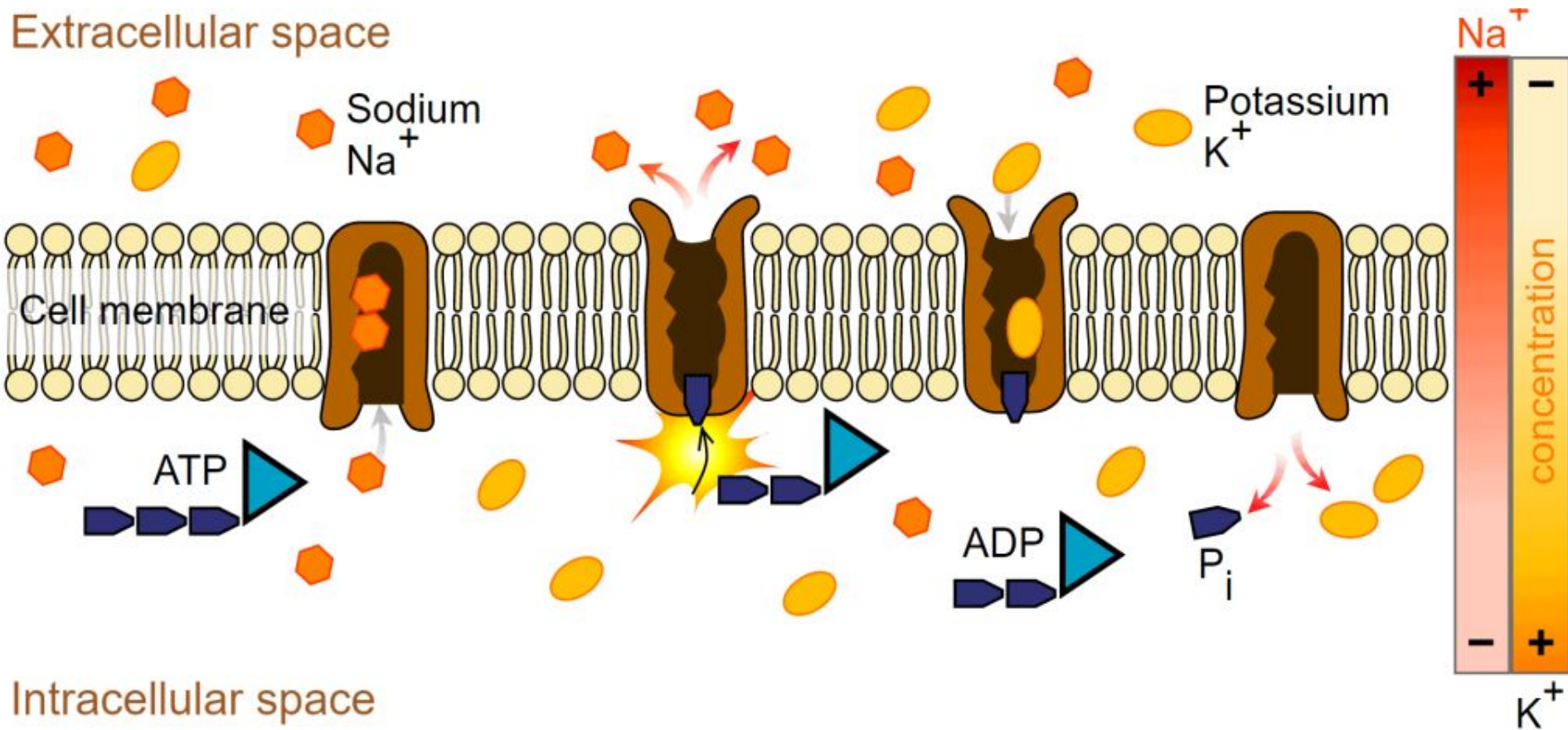
Deep Learning

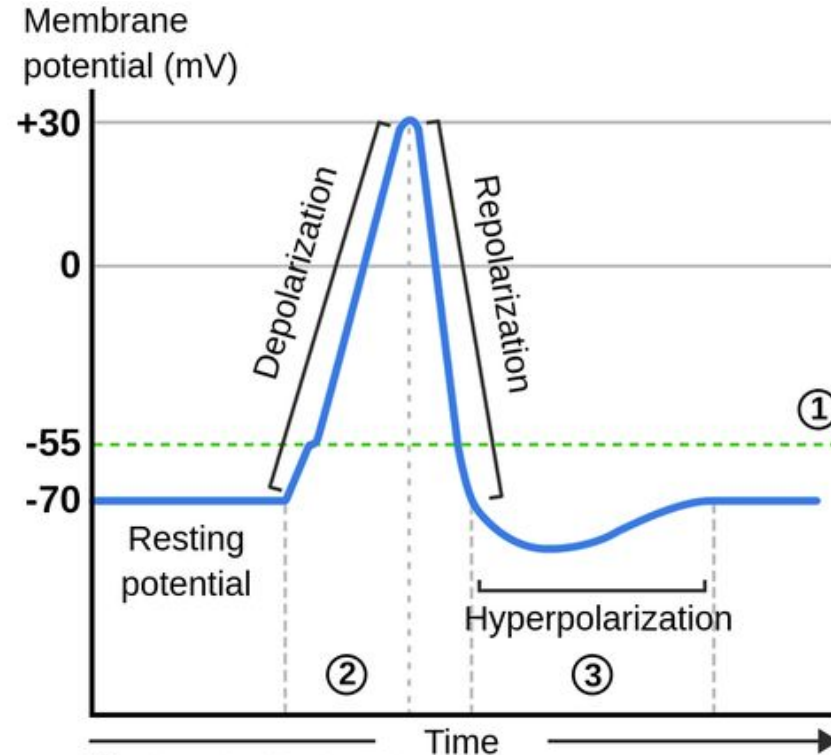






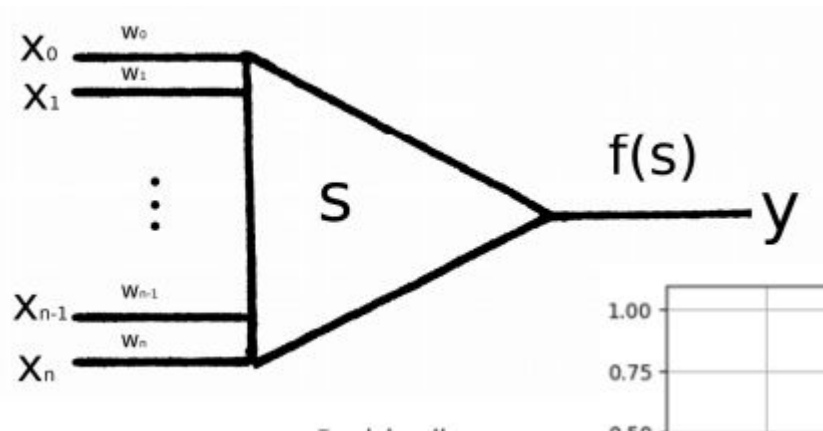
Extracellular space



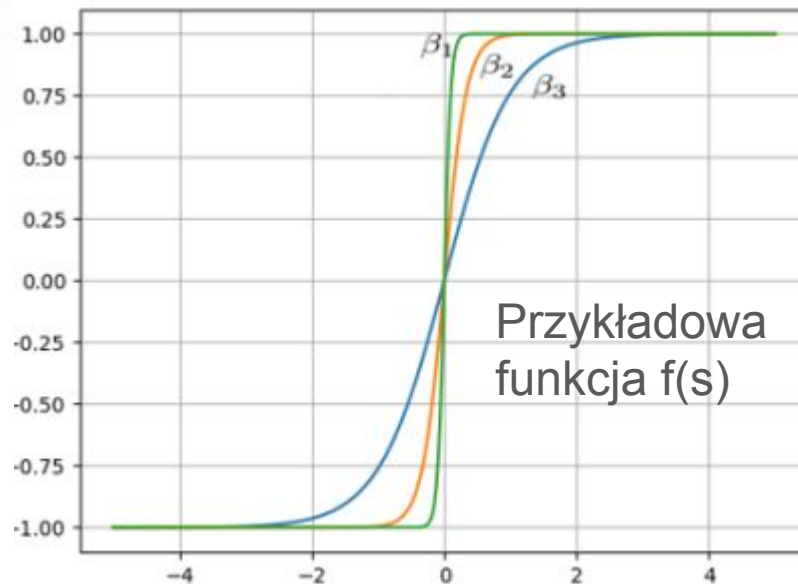


- ① Threshold of excitation
- ② Intracellular Na^+ Increases
- ③ Extracellular K^+ increases





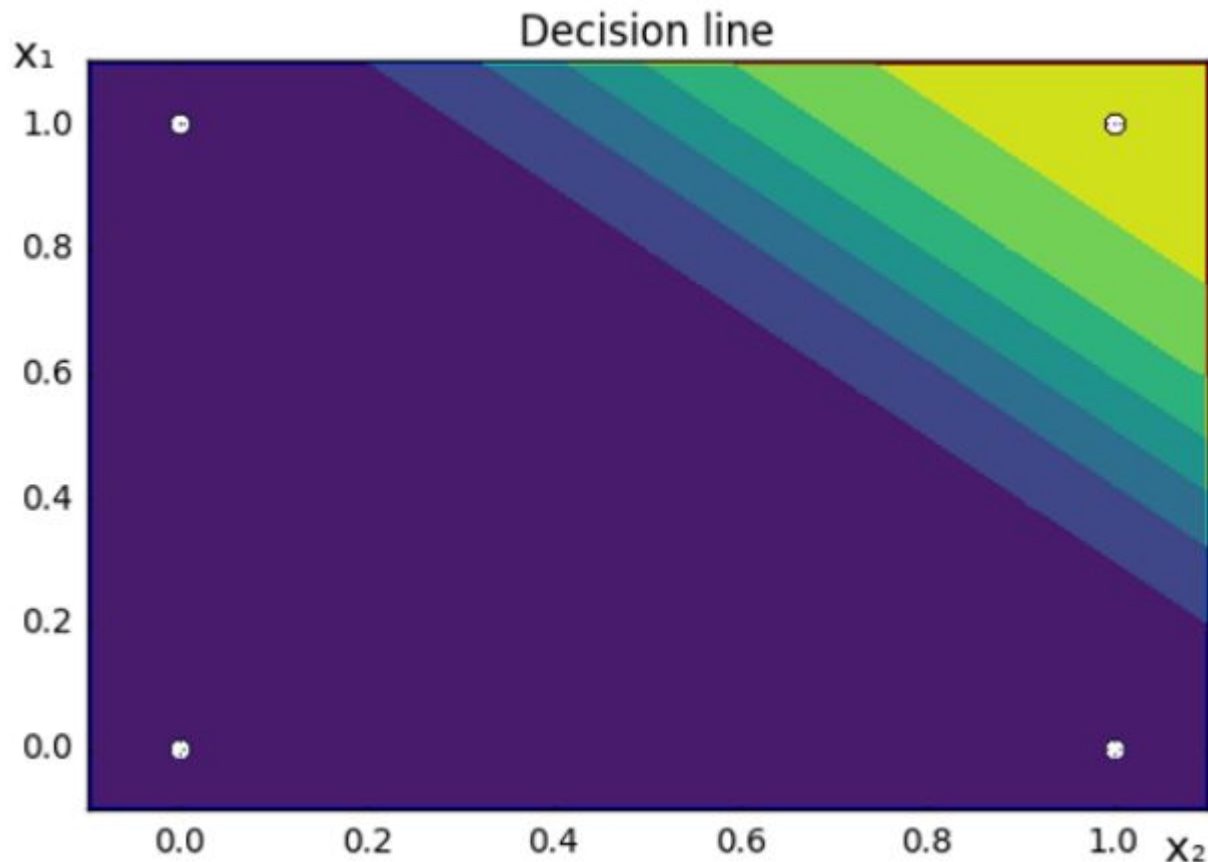
$$y = f(s) = f\left(\sum_{i=0}^N w_i x_i\right)$$





AND gate

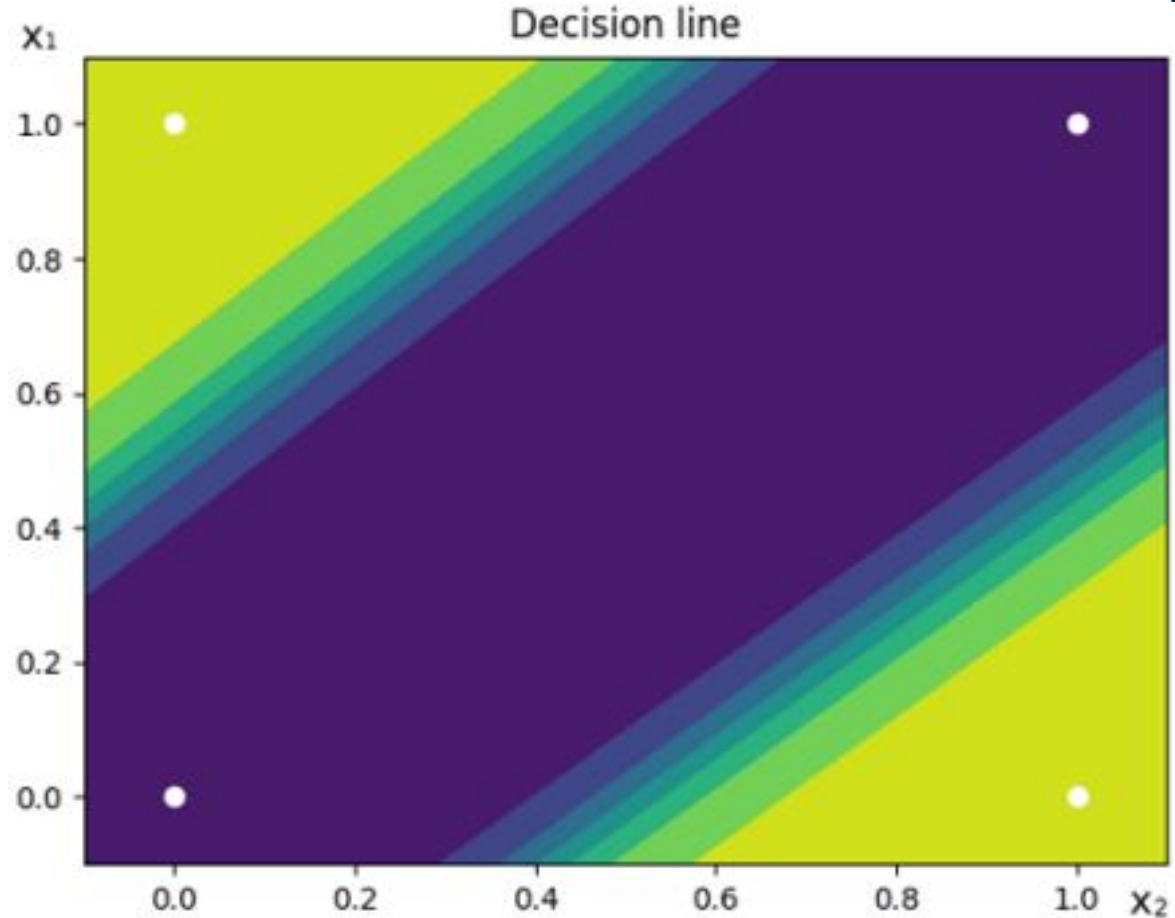
Input A	Input B	Output
0	0	0
1	0	0
0	1	0
1	1	1

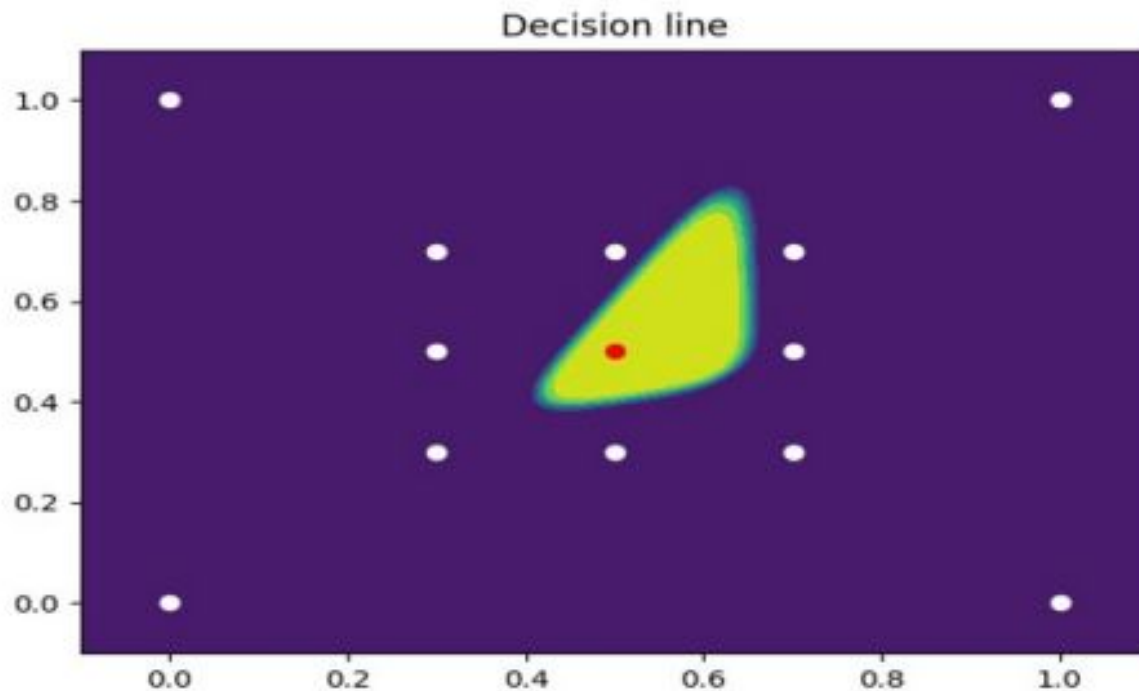
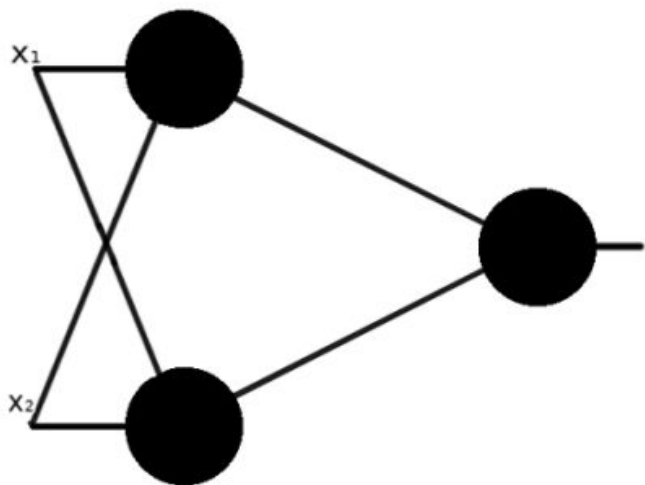


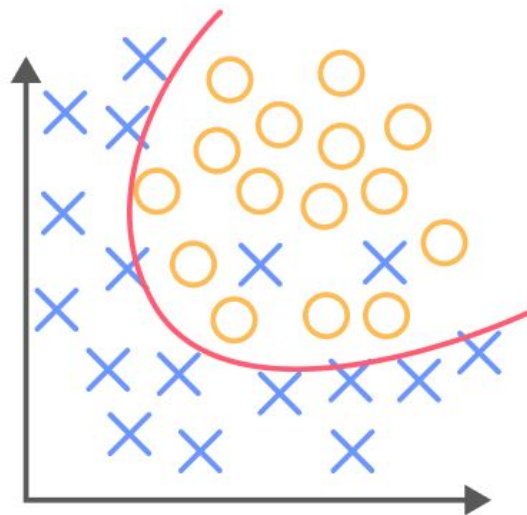


EX-OR gate

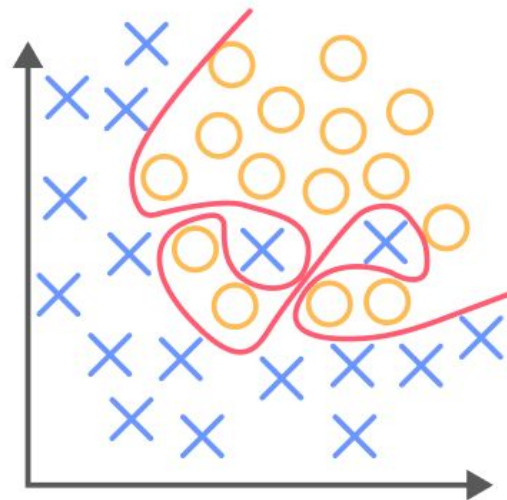
Input A	Input B	Output
0	0	0
1	0	1
0	1	1
1	1	0





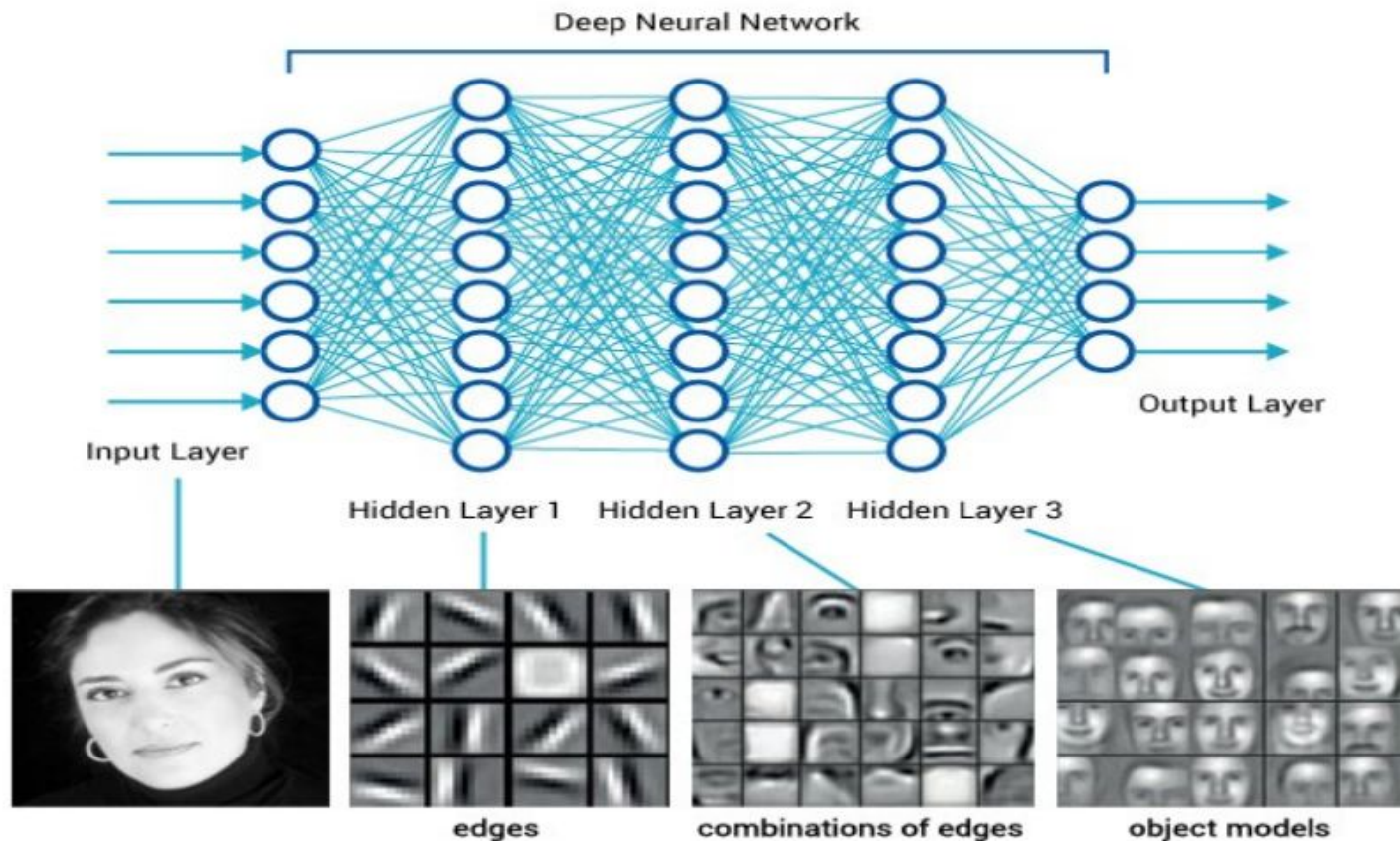


Appropriate fitting



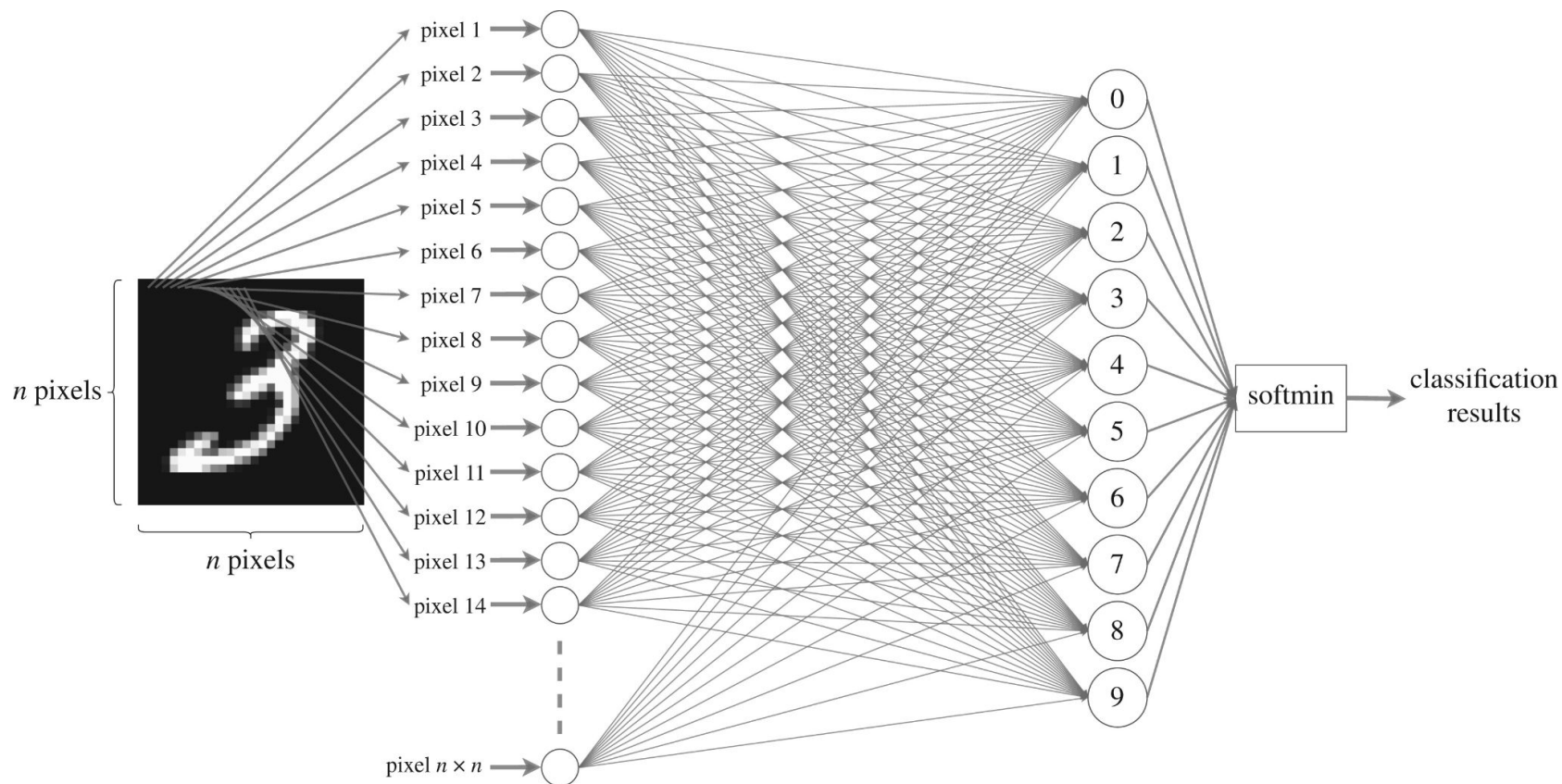
Overfitting

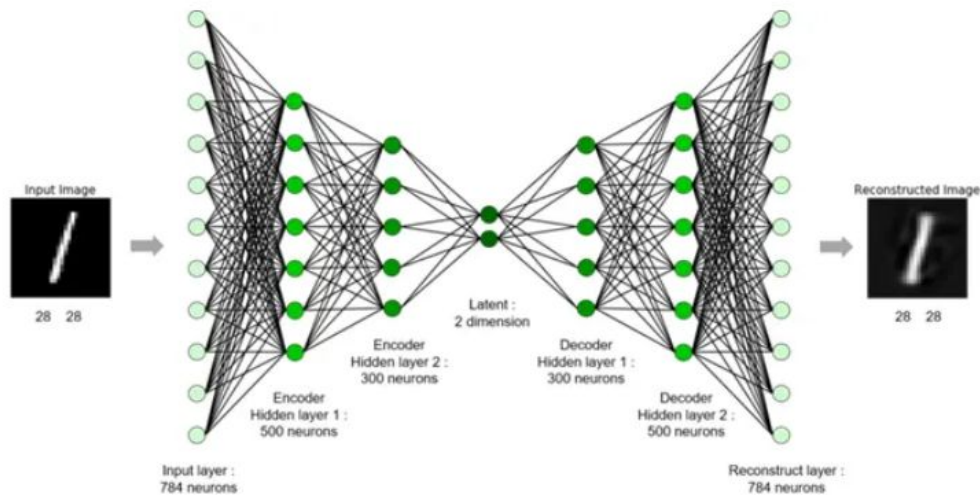




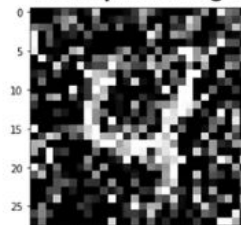
- Klasyfikatory
- Autoenkodery
- GAN (Generatywna sieć przeciwna)
- Sieci rekurencyjne
- Sieci konwolucyjne
- etc.



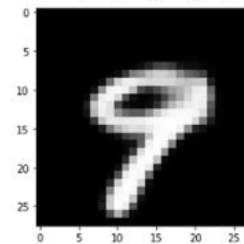
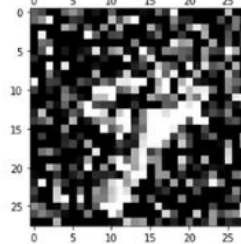
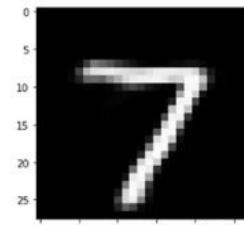
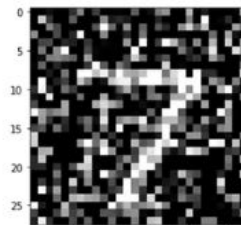
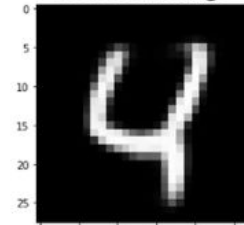


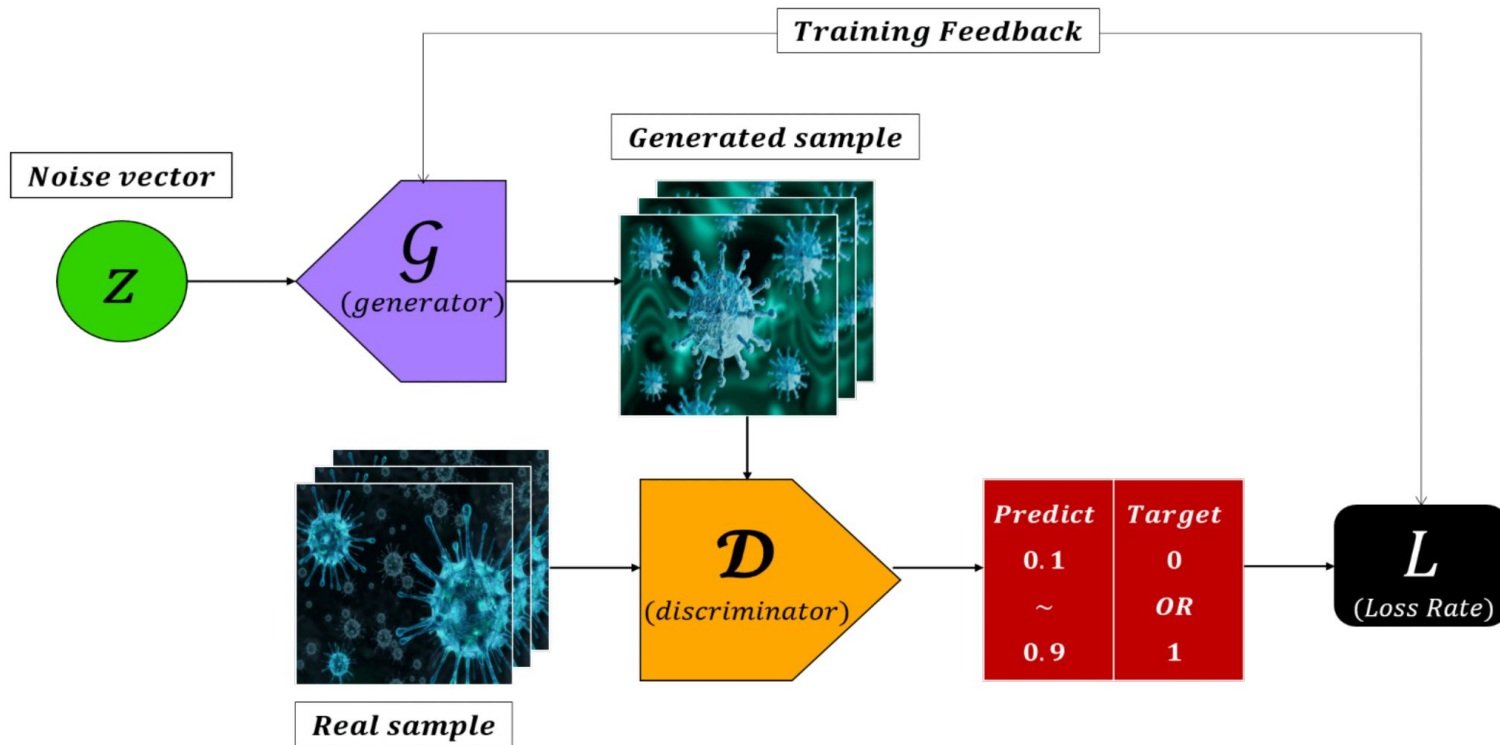


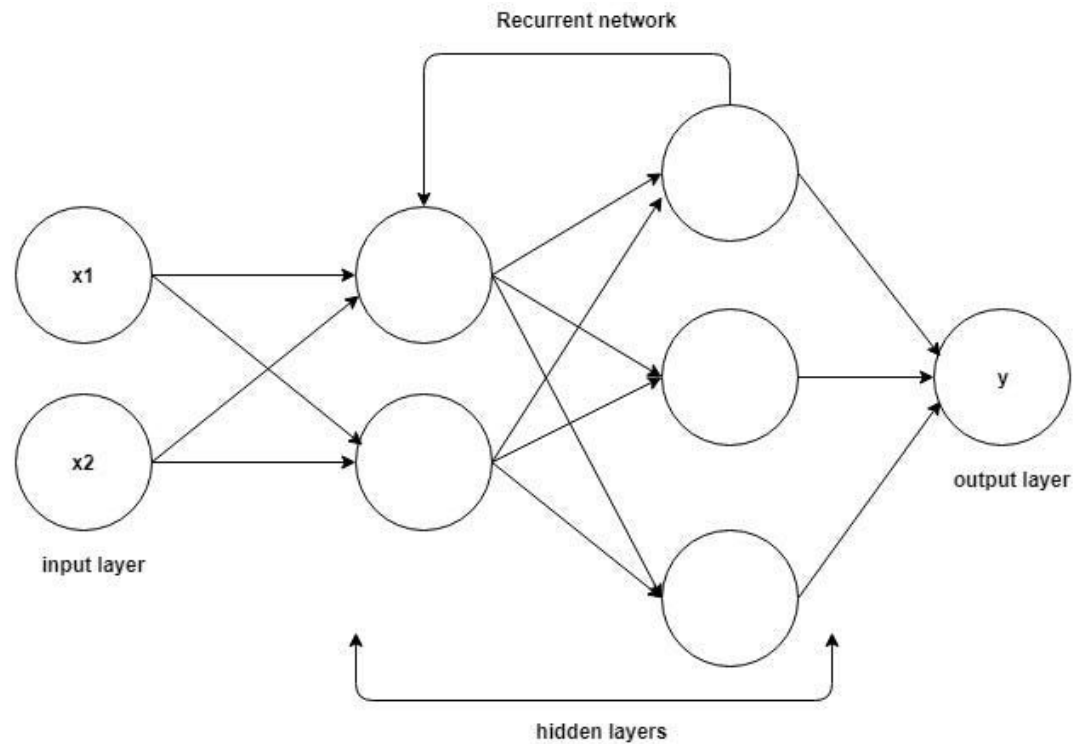
Corrupted image

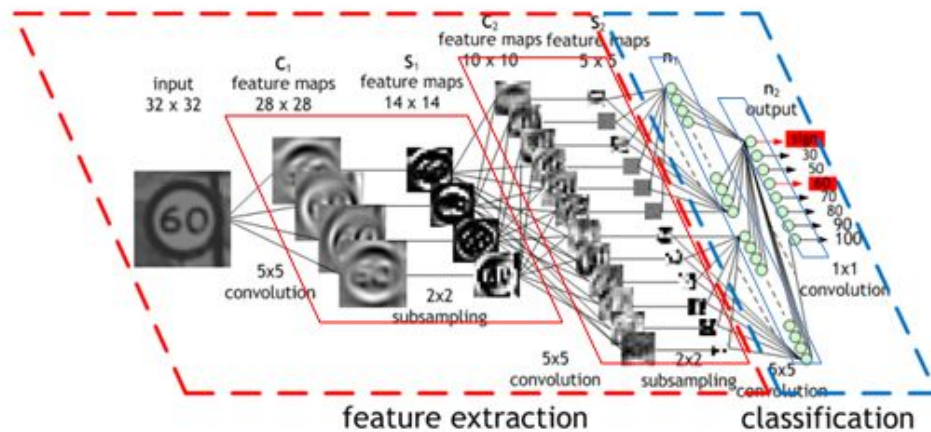
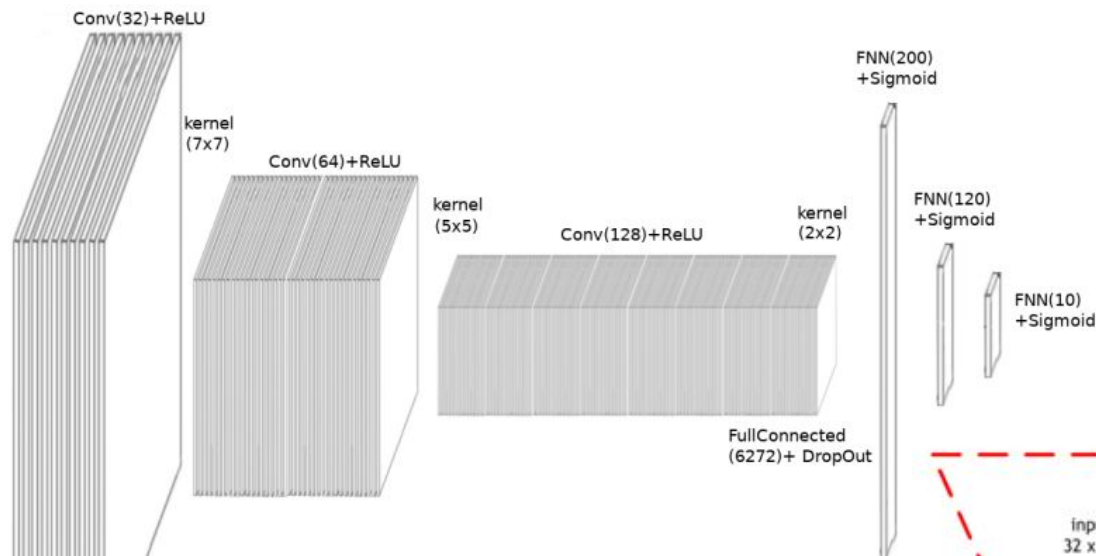


Predicted image









- Medycyna (Analiza obrazowania, diagnostyka)
- Przemysł (Analiza i optymalizacja procesów)
- Nauka (Analiza danych eksperymentalnych, wykrywanie anomalii, odszumianie danych, symulacje komputerowe)
- Życie codzienne (Internet of Things, Internet, algorytmy rekomendujące, tworzenie treści)



INPUT

Symptoms

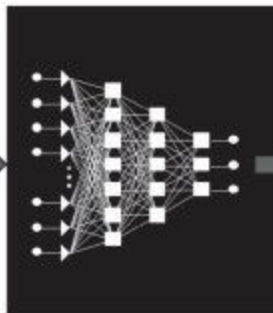
Chest pain,
palpitation, cough...

Biochemical analysis

Urine, blood...

Other features

Age, Gender,
smoking...



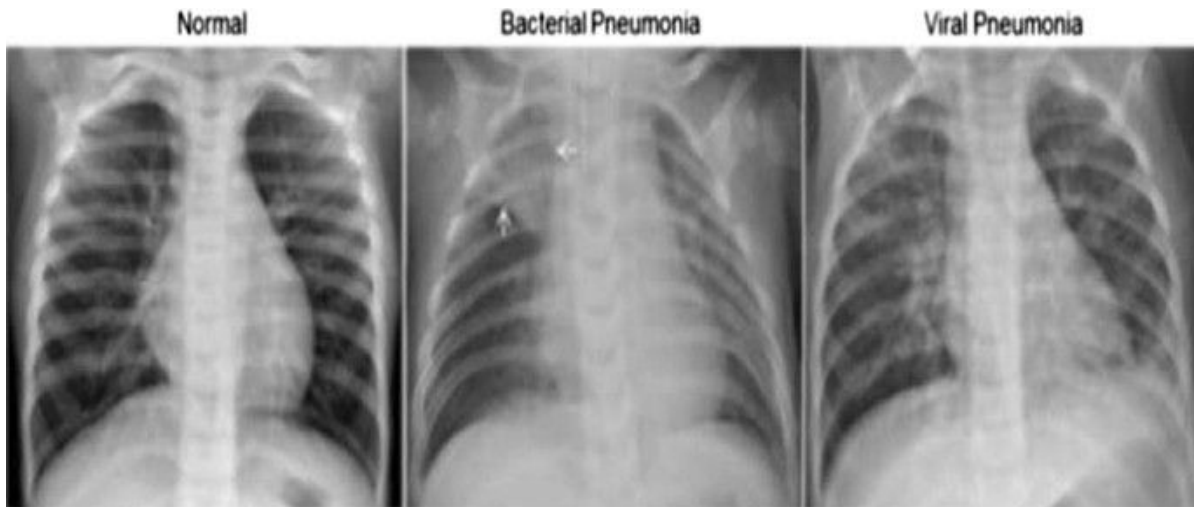
OUTPUT

Diagnosis

Positive

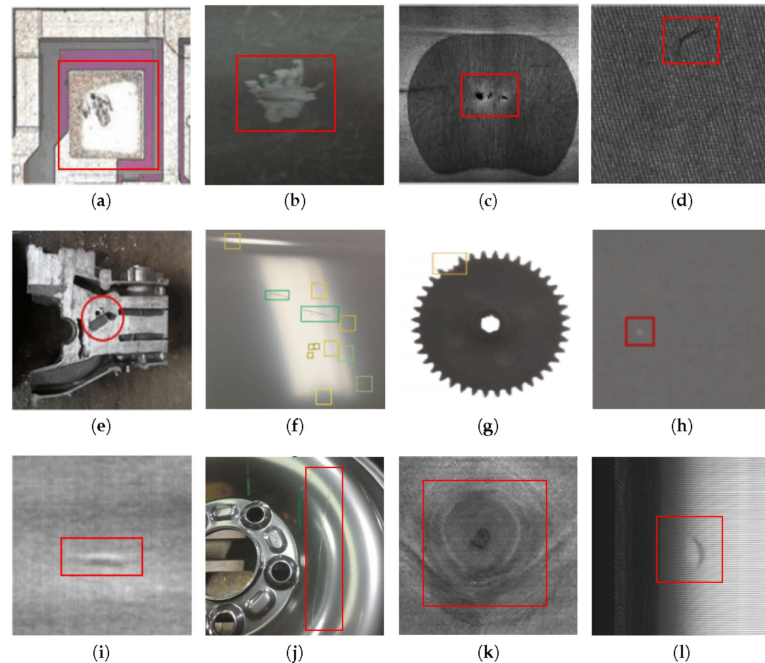
Negative

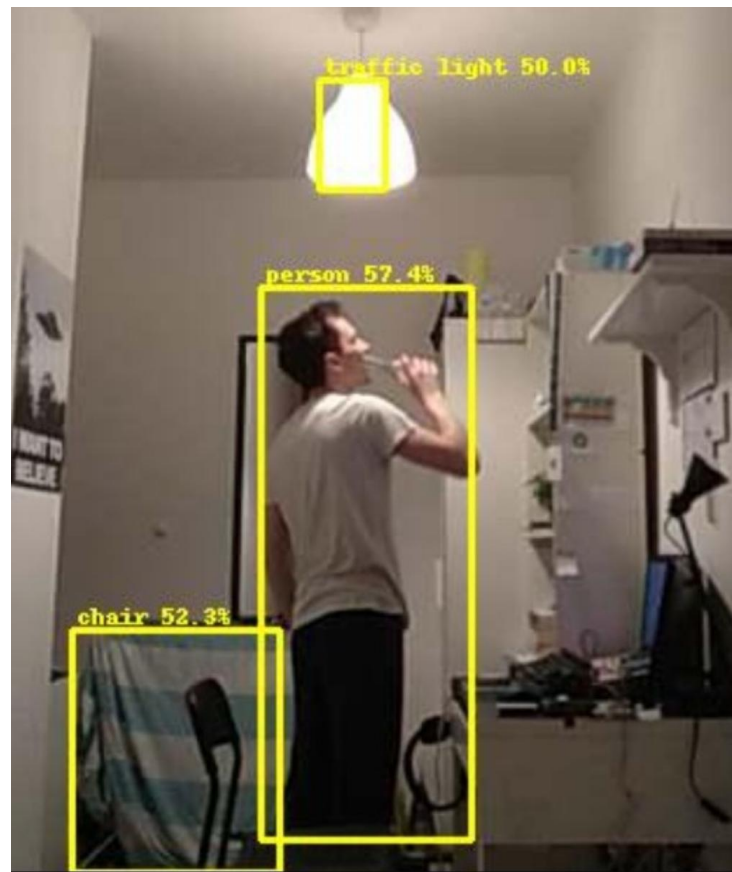
Uncertain

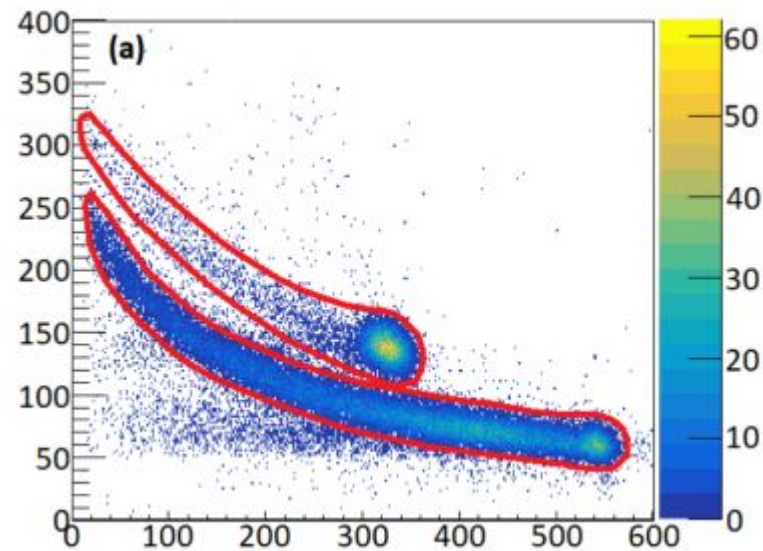
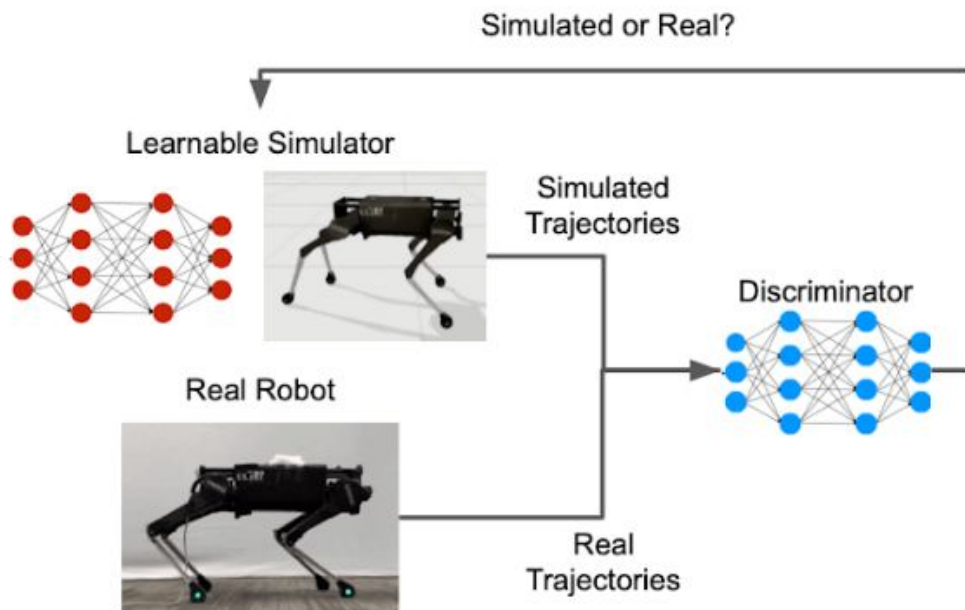


- Przemysł finansowy
- Medyczny
- Energetyczny
- Transportowy
- Telekomunikacyjny

- Rozpoznawanie defektów na liniach produkcyjnych
- Robotyka; zarządzanie ruchem, danymi z sensorów...
- Ocena, diagnostyka















person

0.88



reddish orange color 0.78

light brown color 0.78

starlet 0.66

entertainer 0.66

female 0.60

woman 0.59

young lady (heroine) 0.59



person

0.90



light brown color 0.84

starlet 0.77

entertainer 0.77

female 0.65

woman 0.64

young lady (heroine) 0.64

reddish orange color 0.64

newsreader 0.50





Airplane (Dog)



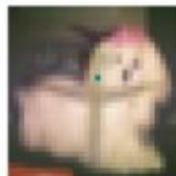
Automobile (Dog)



Automobile
(Airplane)



Cat (Dog)



Dog (Ship)



Deer (Dog)



Frog (Dog)



Frog (Truck)



Dog (Cat)



Bird (Airplane)



Horse (Cat)



Ship (Truck)



Horse
(Automobile)



Dog (Horse)



Ship (Truck)





Dziękuję za uwagę

Bibliografia i materiały dydaktyczne coming soon

kontakt: albert.szadzinski@us.edu.pl

