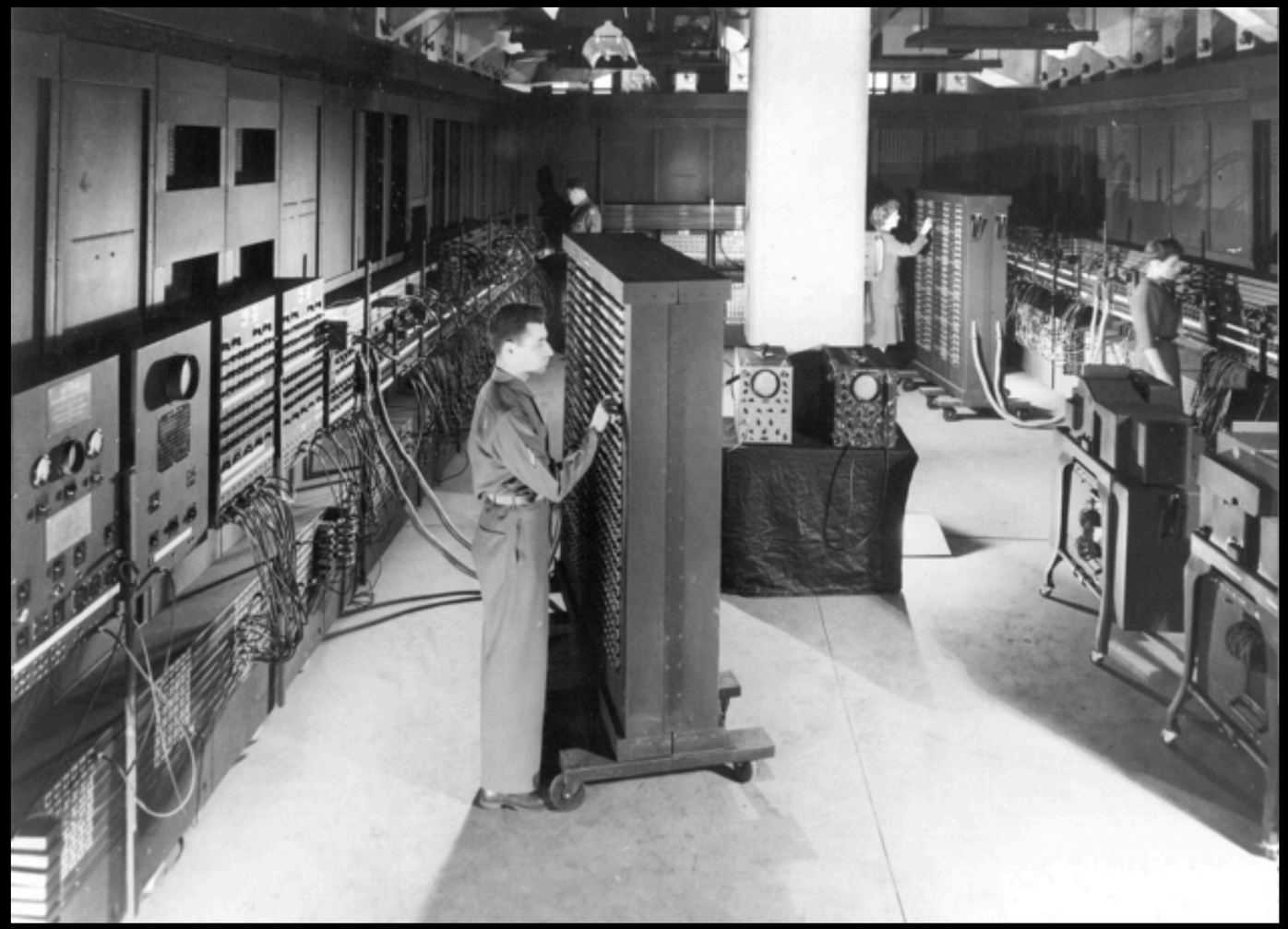
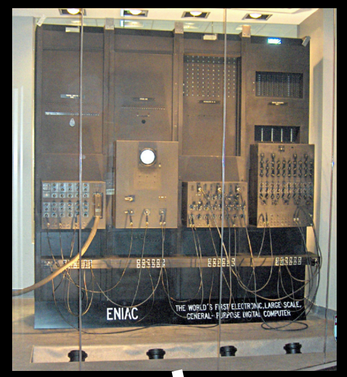
KOKCHUN GIANG

INTRO TILL AI - HISTORIA



Computers



Funding from DARPA
Natural language
Micro worlds
Machine vision

AI winter
No funding
Overhyped

Hopfield net
Backpropagation

Success in
tech industry

≈20-40

≈40-45

1956

56-74

74-80

80-87

87-93

AI winter 2

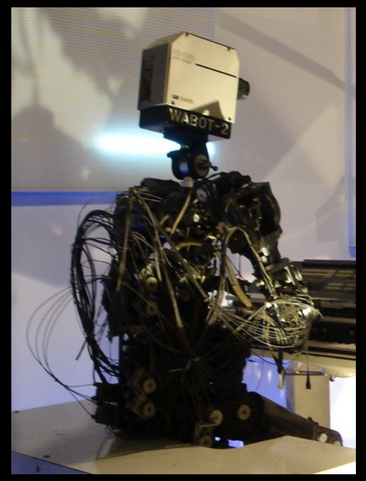
93-2011

$$\overline{A} \cup \overline{B} = \overline{A \cap B}$$
$$\overline{A} \cap \overline{B} = \overline{A \cup B}$$

Formalize & mechanize
mathematical reasoning

Artificial
neuron

AI as academic
research



WABOT

Expert systems
If-then rules

DARPA challenge
Autonomous drive

1997

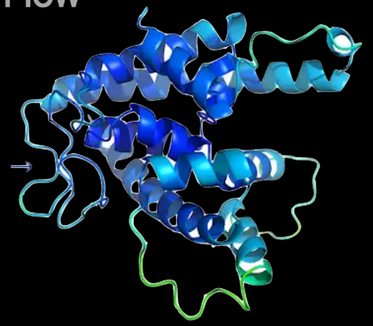
2005

2011

2011 - now

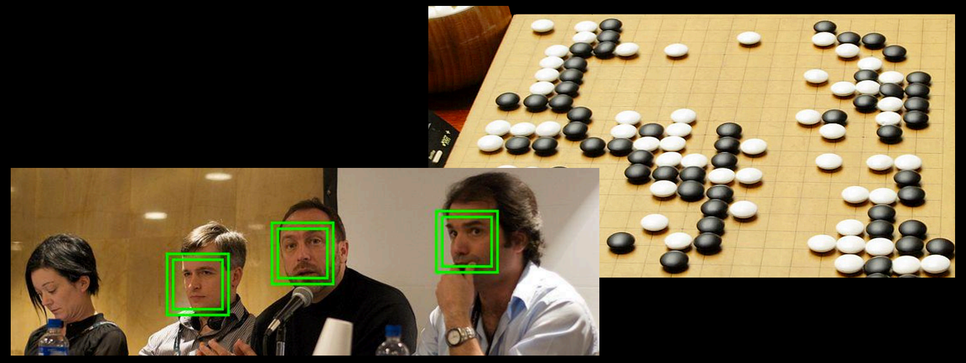
and much more …

Deep learning
Big data
GPUs
Big hype again

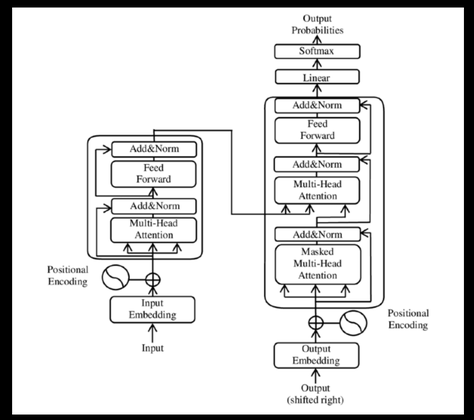


Deep blue

IBM Watson



Transformers



DallE

Large language models

ChatGPT

AI act

Legislation

2017

2022

Generative AI boom

Machine learning

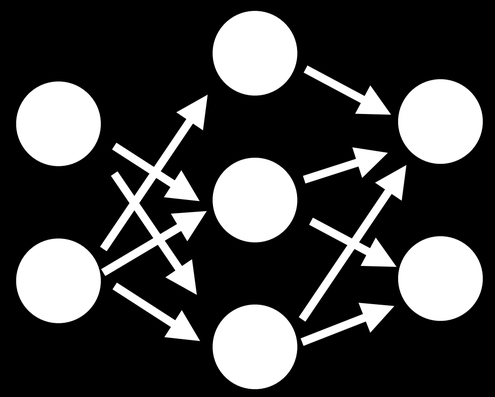
Started as quest for AI

Probabilistic & statistical methods

Pattern recognition

Flourish in 1990s

Deep learning



Layers of representations

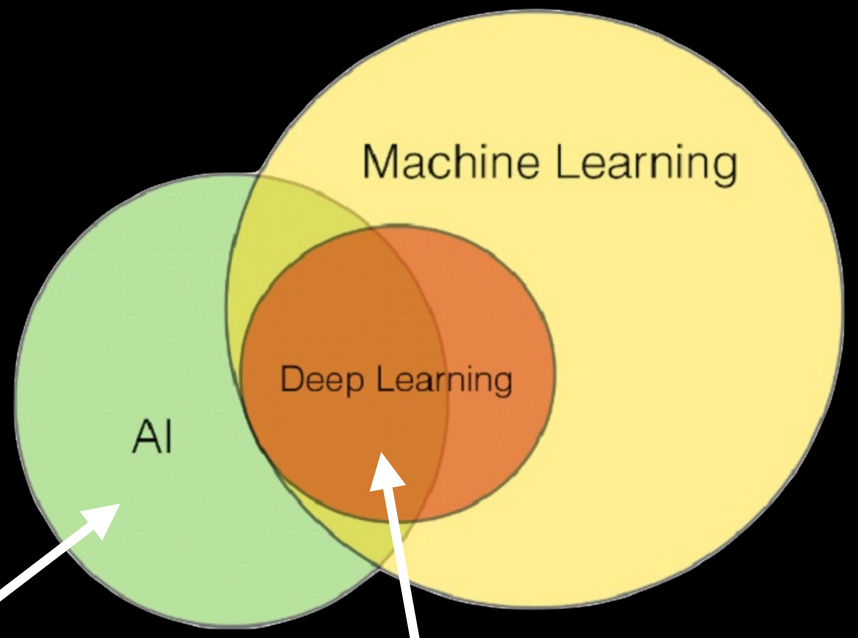
Artificial neural networks

Inspired by brain - not model of brain

Important algorithms in 90s

Popular in 2012 (thanks to GPU & data)

Artificial intelligence



Algorithms learn rules automatically from data

Logic rules
e.g. if-else …

Multilayer neural networks to learn representations from data