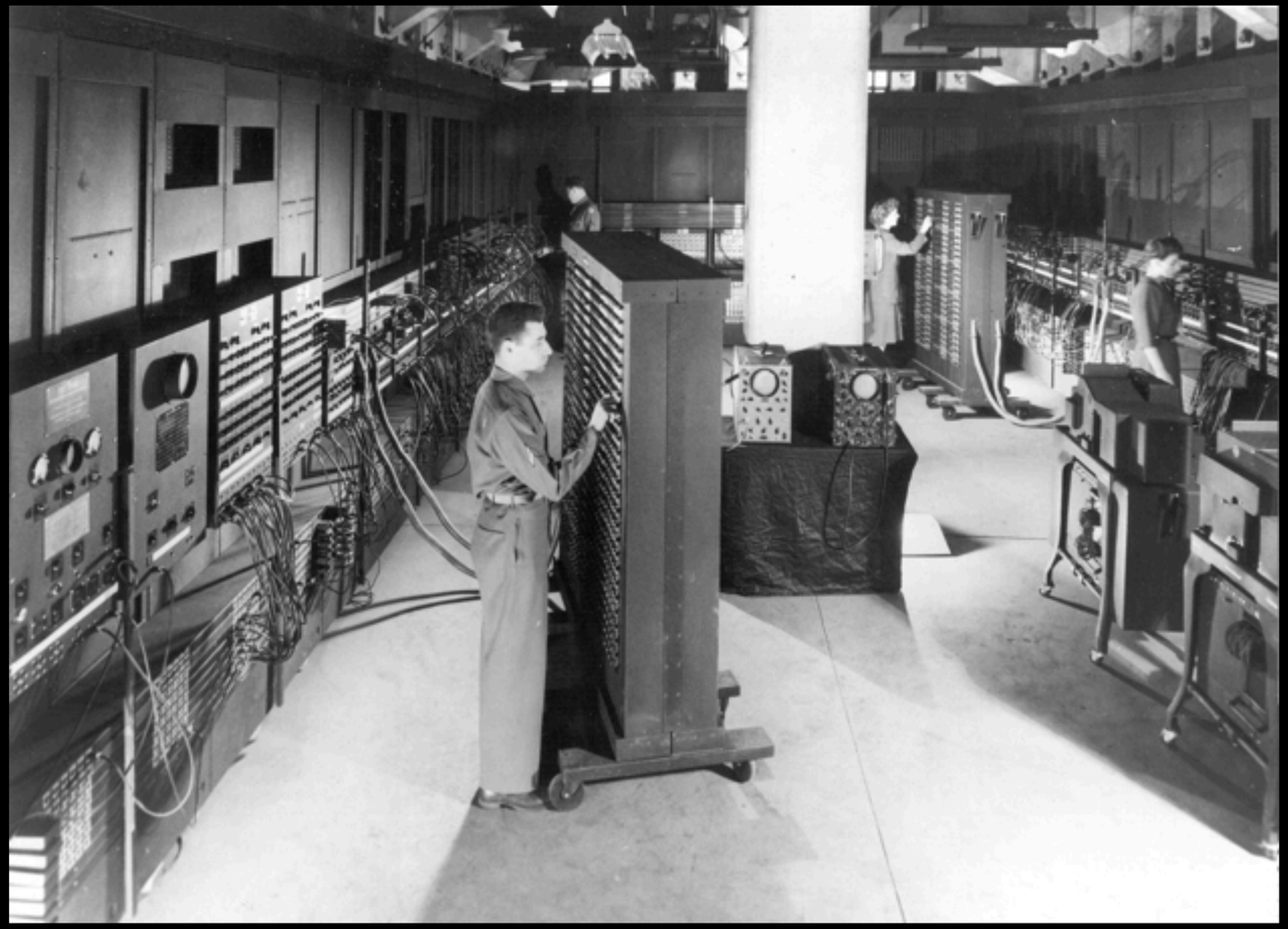
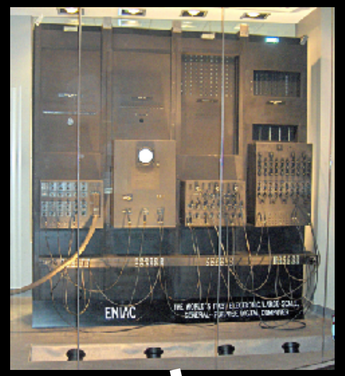
KOKCHUN GIANG

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

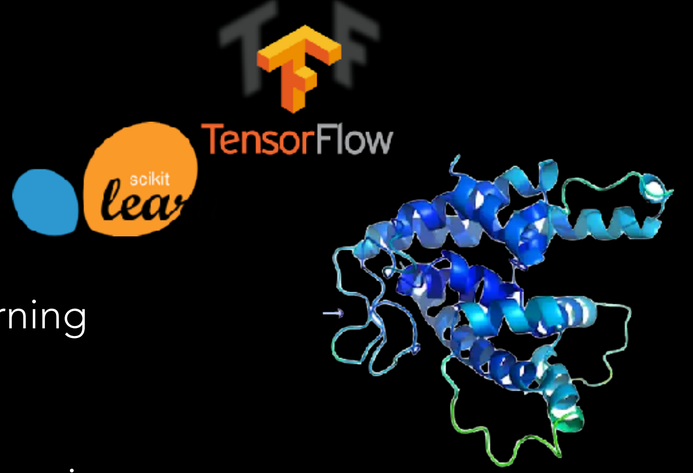
Expert systems
If-then rules

DARPA challenge
Autonomous drive

1997

2011

Deep learning
Big data
GPUs
Big hype again

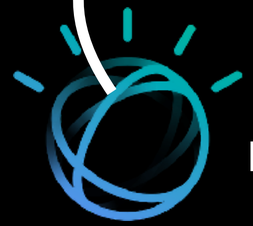


2005

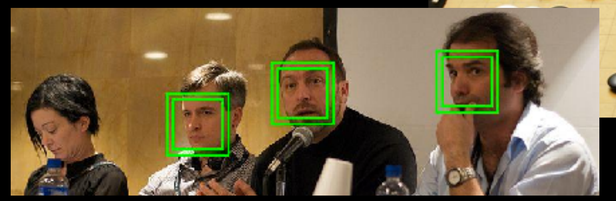
2011 - now

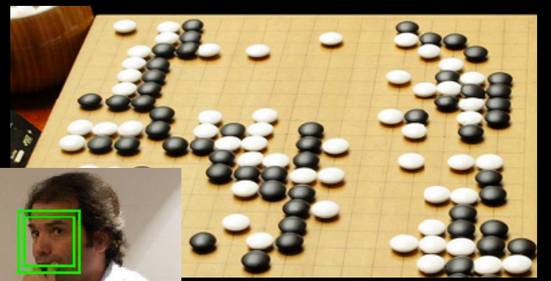
and much more …

Deep blue



IBM Watson

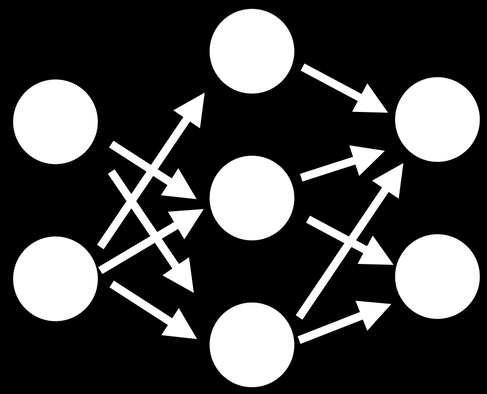




Machine learning

Started as quest for AI
Probabilistic & statistical methods
Pattern recognition
Flourish in 1990s

Deep learning



Layers of representations

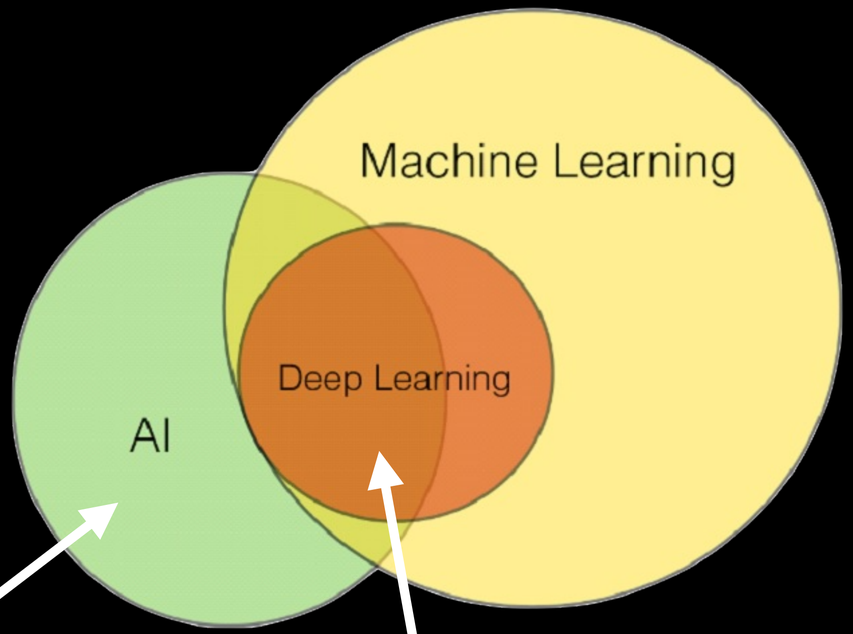
Artificial neural networks

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