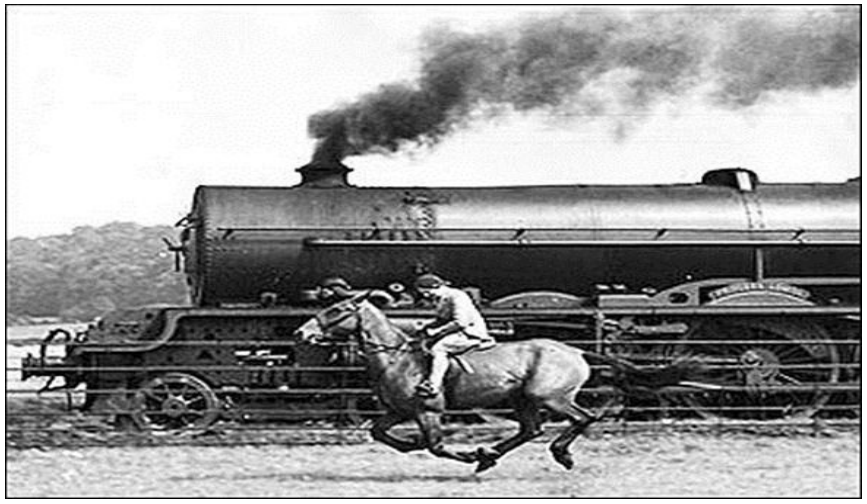
AI among humans + AI & IPR

Timo Honkela & Kirsti Lonka

University of Helsinki
Finland

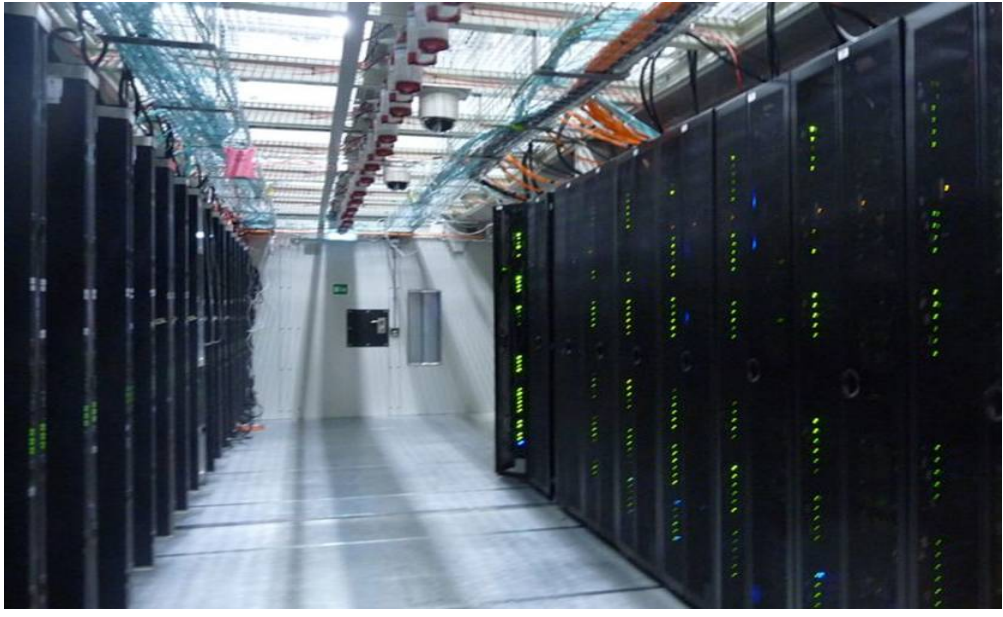
IPR huippuseminaari
Helsinki, Feb 6, 2019



https://www.pinterest.com/pin/509680882801748515/

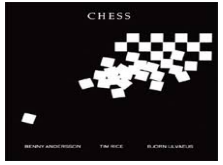
https://en.wikipedia.org/wiki/Johannes_Gutenberg

https://www.csc.fi/



From invention of **printing** to **industrial revolution** and **AI revolution**

Use of AI in a limited context:
two ways to be better than humans in chess



https://en.wikipedia.org/wiki/Chess_(musical)

Long history of human chess, here Fischer vs Tal (1958)

Brute force calculation & Heuristics (“dull old AI”)

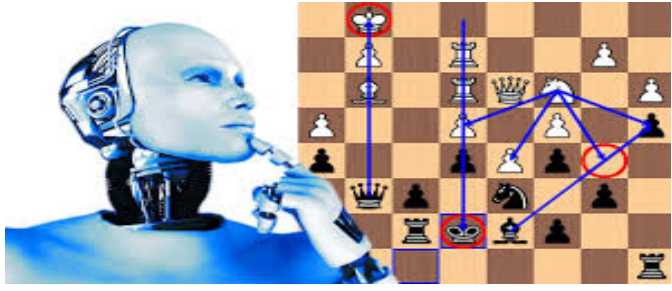
Deep Blue (1997)

https://www.pri.org/stories/2018-01-05/garry-kasparov-and-game-artificial-intelligence

Multilayer neural nets & reinforcement learning: best, intuitive, creative.

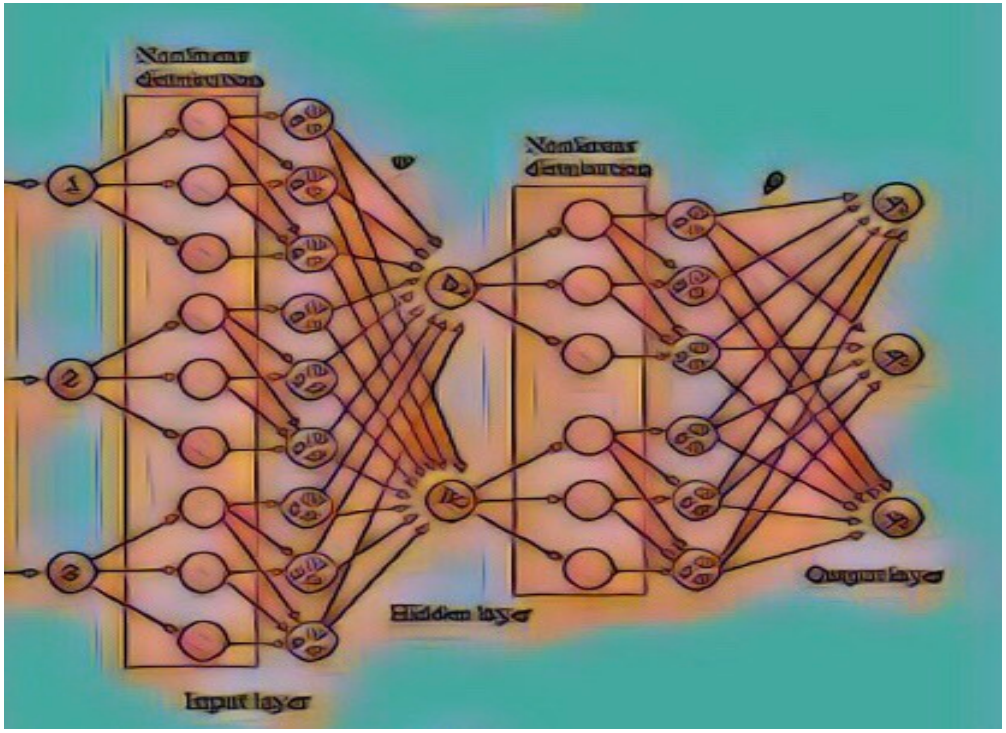
Some hours of playing against itself

AlphaZero (2017)



https://www.youtube.com/watch?v=0g9SlVdv1PY

Processing complex patterns & modeling intuition

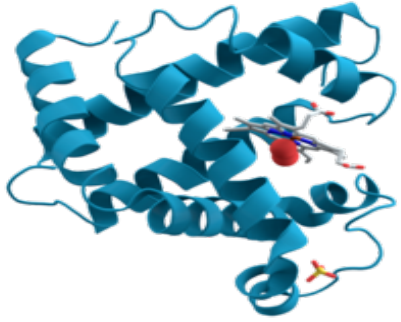


Attention to **context** and **details**

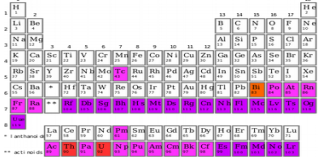
Representing and **reasoning** on multiple levels and domains of **reality**

From Chess to the World

Natural and biological sciences have only very limited capacity as explanatory forces for dealing with human individuals and societies



Increasing complexity



Images: Wikipedia

Perception

Action

Embodiment

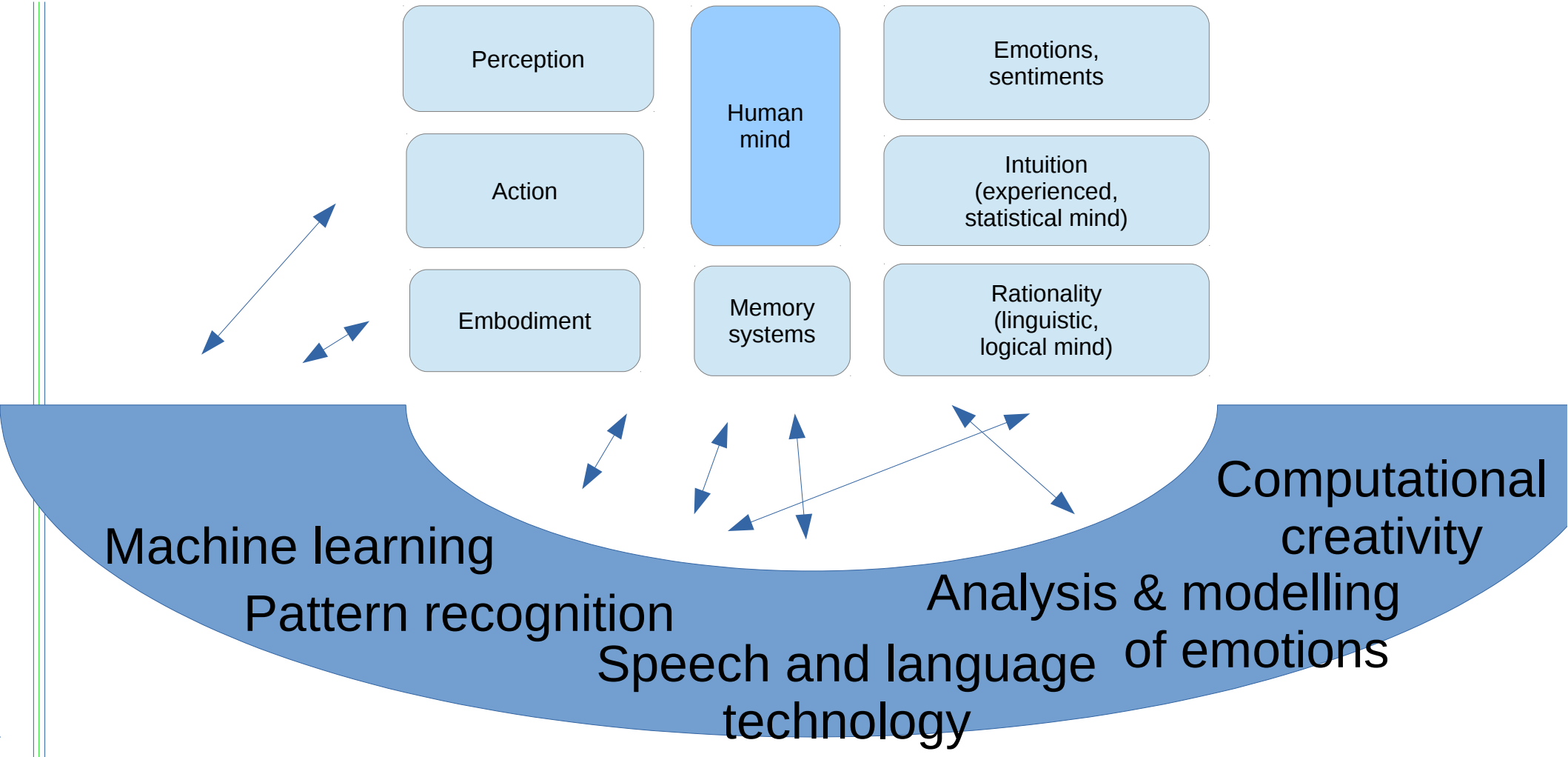
Human mind

Memory systems

Emotions, sentiments

Intuition (experienced, statistical mind)

Rationality (linguistic, logical mind)

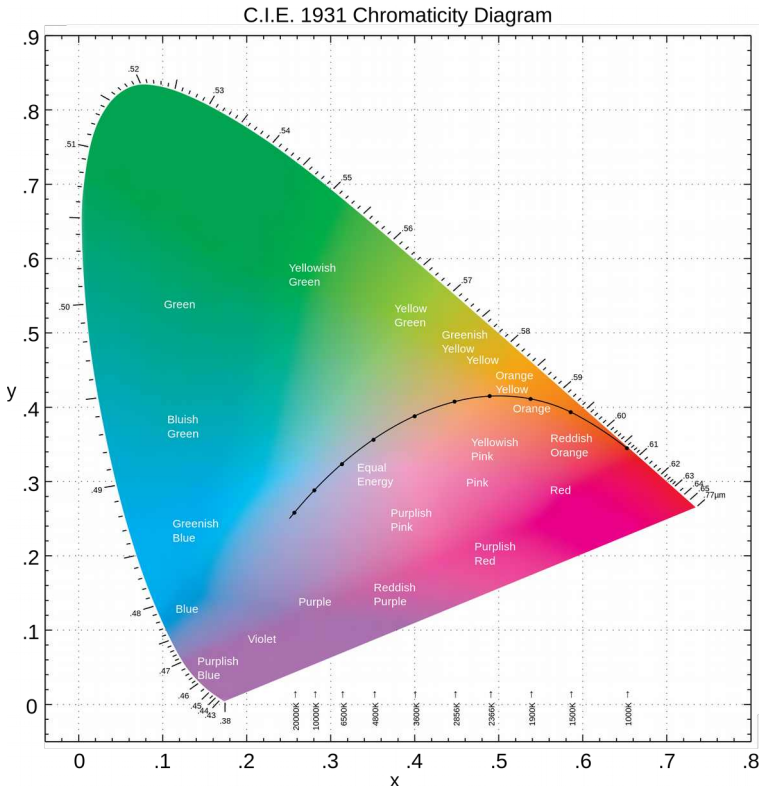

Perception
Action
Embodiment
Human mind
Memory systems
Emotions, sentiments
Intuition (experienced, statistical mind)
Rationality (linguistic, logical mind)
Machine learning
Pattern recognition
Speech and language technology
Analysis & modelling of emotions
Computational creativity

Variety of people and their mental models

professions, skills, values, identities, personalities, etc.

https://clipartfest.com/categories/view/97c2b05418492d1354162eeca5780343bebd1002/free-clip-art-professions.html

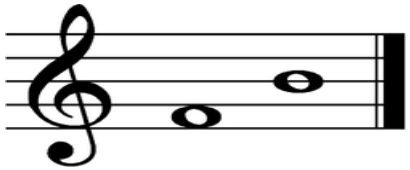
Meaning negotiations



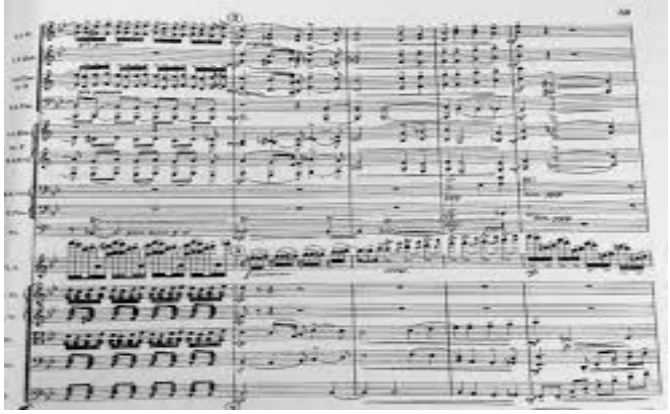
https://en.wikipedia.org/wiki/CIE_1931_color_space

Investments into
humans, data, methods
and
computing resources

Computational creativity



Artisto



https://en.wikipedia.org/wiki/Tool

Learning to **use AI**

Networks of **trust**

https://en.wikipedia.org/wiki/Wikipedia_community

Kirsti’s 5K

- Kunnioita (Respect)
- Kuuntele (Listen)
- Kiinnostu (show Interest)
- Kannusta (Encourage)
- Kiitä (be Grateful)

Thank you for your attention!