



# AICA CONGRESSO 2019 e ICDL | DIGITAL LITERACY FORUM

Università degli Studi di Napoli Federico II  
Piazzale Tecchio, 80 | Napoli

21-22  
OTTOBRE

in collaborazione con



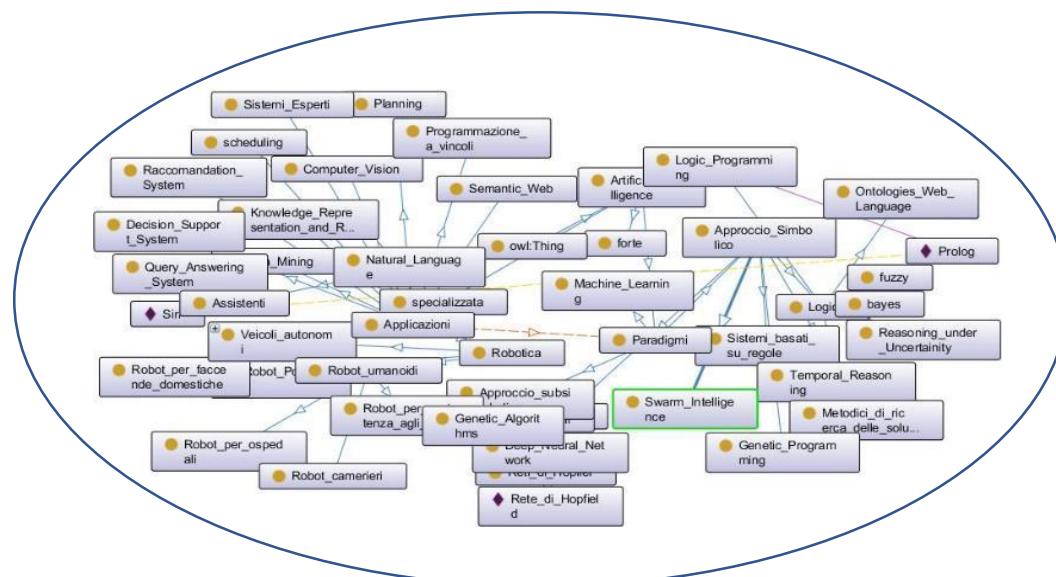
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Stato dell'Arte dell'IA  
Piero Poccianti  
presidente Associazione Italiana per l'Intelligenza Artificiale (AIxIA)

# Intelligenza Artificiale

- Simbolica
- Subsimbolica
- Generale o forte
- Limitata o debole



# I paradigmi dell'IA

## ❖ Simbolici

- Planning
- KR representation
  - ◊ Logiche
    - Logic programming
    - Description logic
    - Fuzzy logic
  - ◊ Sistemi di produzione
  - ◊ Frames, reti semantiche, ecc
  - ◊ Probabilità
- Machine learning

## ❖ SubSimbolici

- Genetic algorithms and programming
- Neural network
- ....



# Three Waves of AI

**DESCRIBE**

*Handcrafted  
Knowledge*

**CATEGORIZE**

*Statistical  
Learning*

**EXPLAIN**

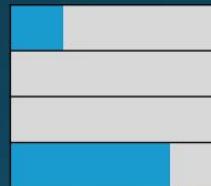
*Contextual  
Adaptation*

# Darpa

## The first wave of AI



Perceiving  
Learning  
Abstracting  
Reasoning



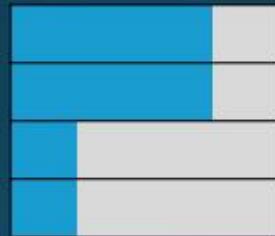
Enables reasoning over  
narrowly defined problems

No learning capability  
and poor handling of  
uncertainty

# The second wave of AI



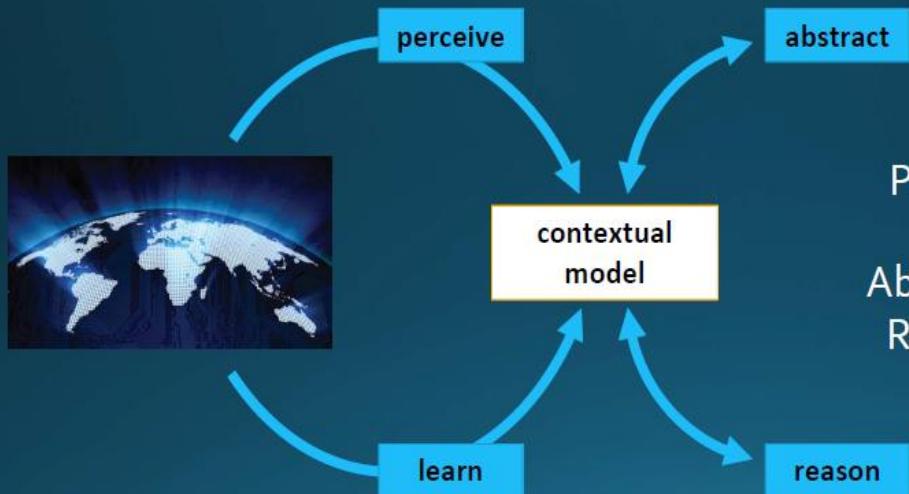
Perceiving  
Learning  
Abstracting  
Reasoning



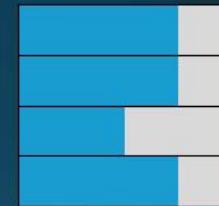
Nuanced classification and  
prediction capabilities

No contextual capability and  
minimal reasoning ability

# The third wave of AI

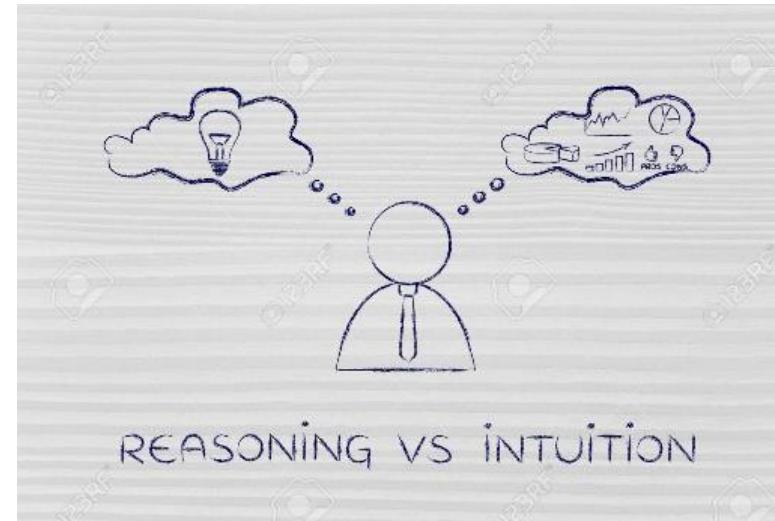


Perceiving  
Learning  
Abstracting  
Reasoning

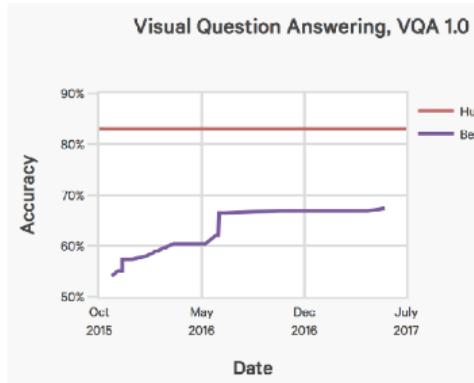
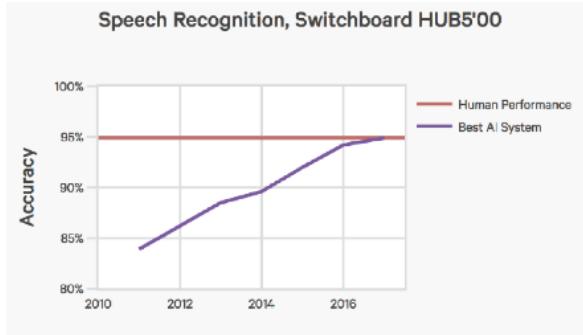
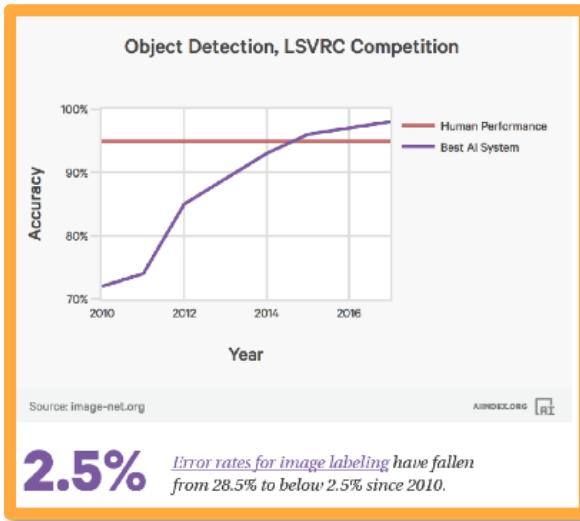


# Percezione versus reasoning

- "The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honours the servant and has forgotten the gift"
- 
- Albert Einstein



# La comparazione con gli umani...



# Dove siamo oggi?

anno	risultato
1980	Otello
1995	Dama
1997	Scacchi
2011	Jeopardy!
2015	Atari
2016	Object Detection in ImageNet
2016	Go
2017	Skin Cancer Classification
2017	Speech Recognition on Switchboard
2017	Poker
2017	Ms. Pac-Man
2019	Debate





## GLI INDICATORI DI BENESSERE EQUO E SOSTENIBILE

I dodici indicatori sono:

1 REDDITO MEDIO DISPONIBILE AGGIUSTATO PRO CAPITE	2 INDICE DI DISEGUAGLIANZA DEL REDDITO DISPONIBILE	3 INDICE DI POVERTÀ ASSOLUTA	4 SPERANZA DI VITA IN BUONA SALUTE ALLA NASCITA
5 ECESSO DI PESO	6 USCITA PRECOCE DAL SISTEMA DI ISTRUZIONE E FORMAZIONE	7 TASSO DI MANCATA PARTECIPAZIONE AL LAVORO, CON RELATIVA SCOMPOSIZIONE PER GENERE	8 RAPPORTO TRA TASSO DI OCCUPAZIONE DELLE DONNE DI 25-49 ANNI CON FIGLI IN ETÀ PRESCOLARE E DELLE DONNE SENZA FIGLI
9 INDICE DI CRIMINALITÀ PREDATORIA	10 INDICE DI EFFICIENZA DELLA GIUSTIZIA CIVILE	11 EMISSIONI DI CO2 E ALTRI GAS CLIMA ALTERANTI	12 INDICE DI ABUSIVISMO EDILIZIO

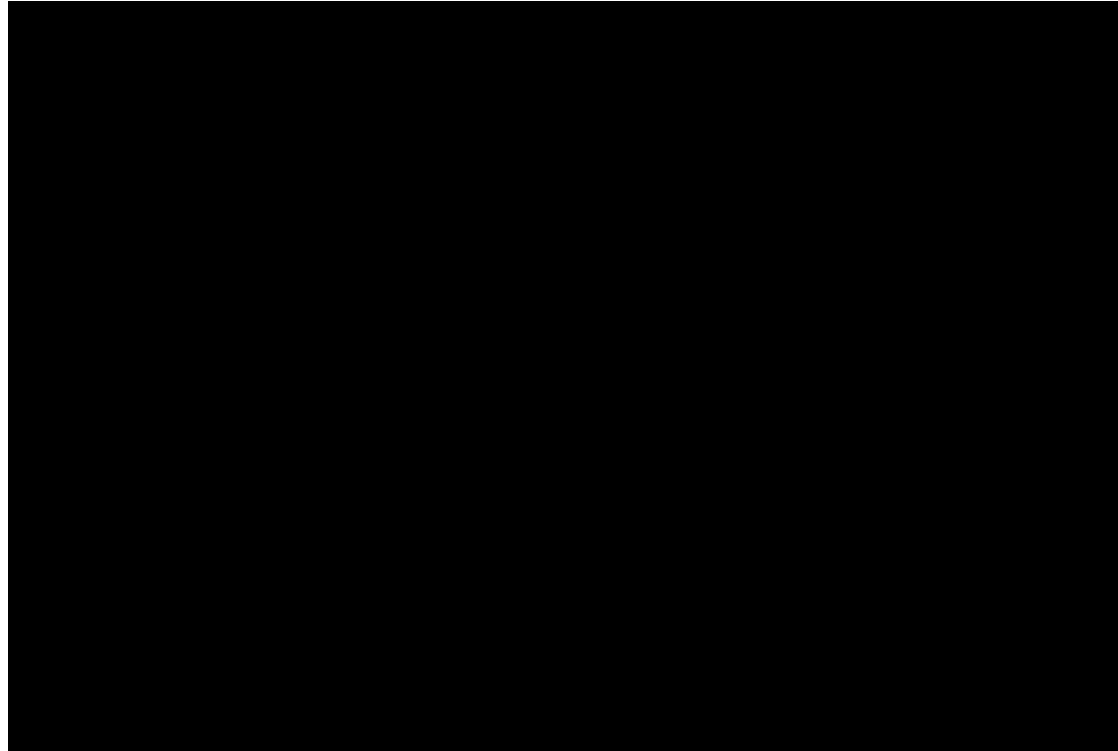
# 2000 Millennium Goals



# 2015

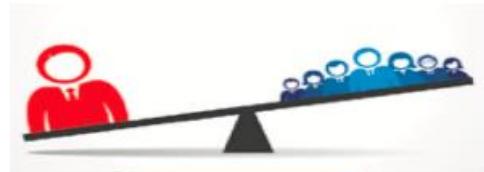


# Accendete la luce



# Accendete la luce





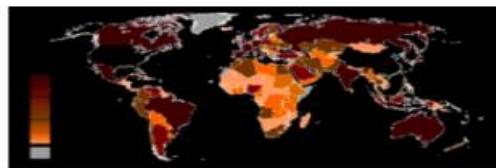
Pollution



Oligarchy



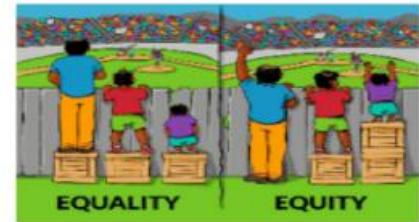
AI



GDP



Well  
Being



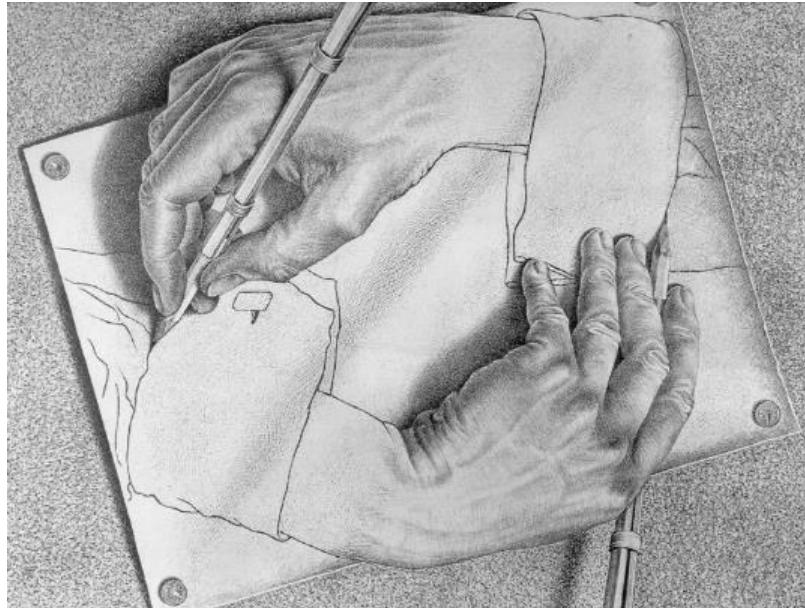
EQUALITY      EQUITY



Democracy

0 km AI Infrastructure

# Grazie per l'attenzione



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