Artificial Intelligence and Machine Learning

All In AI

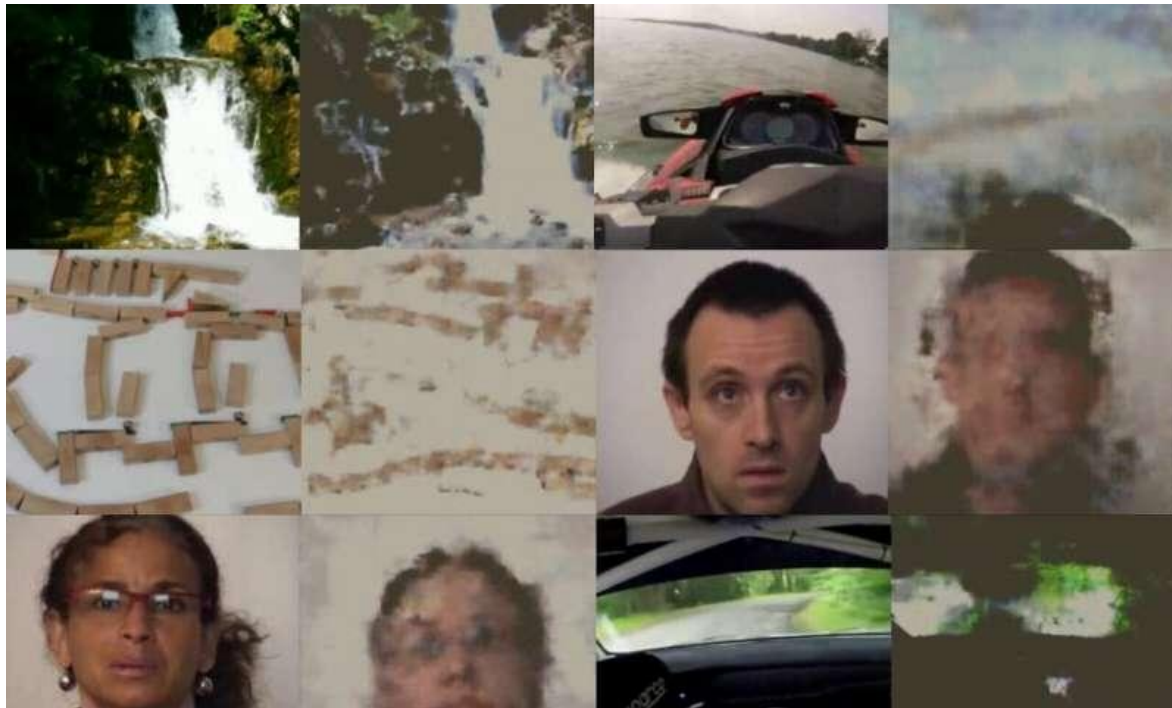# What do you think of when you hear "AI"?

Reconstructed image
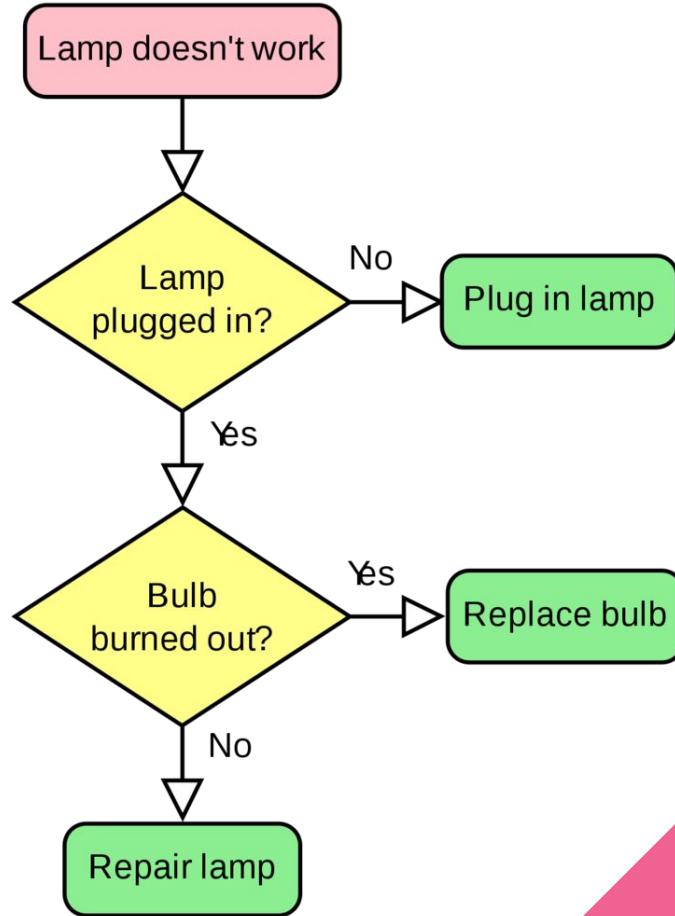
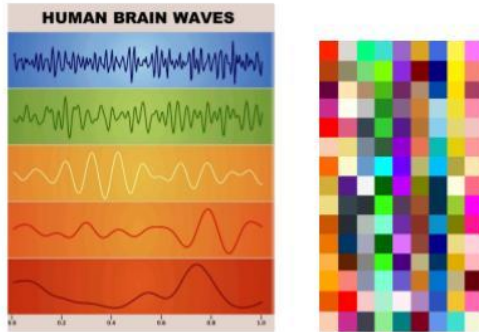Original image

From this video:

Background

- Artificial Intelligence (AI): Autonomy and Adaptivity

- Machine Learning: A system that operates upon data to "learn"

  - Makes predictions (basically decisions)

  - Analyzes a lot of data

  - Matching X's to Y's: Video w/ images

- Not what movies or advertisements may tell you

  - AI is specific, not general

What Computer Science looks like

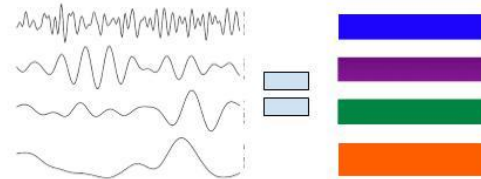# What Machine Learning and AI looks like

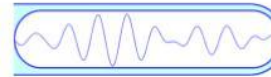2. Computer finds patterns (this is machine learning!)

HUMAN BRAIN WAVES

1. Computer receives X's and Y's
   a. In this example, the X's are brainwaves, and the Y's are the images caused the brainwaves
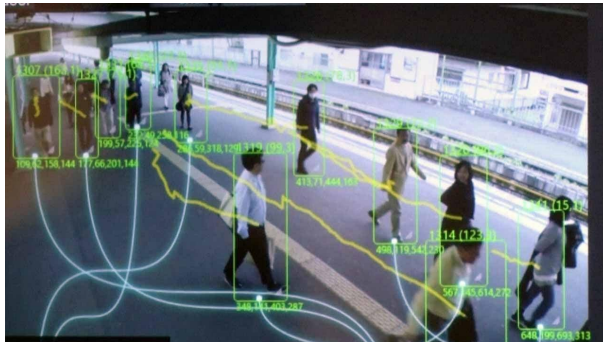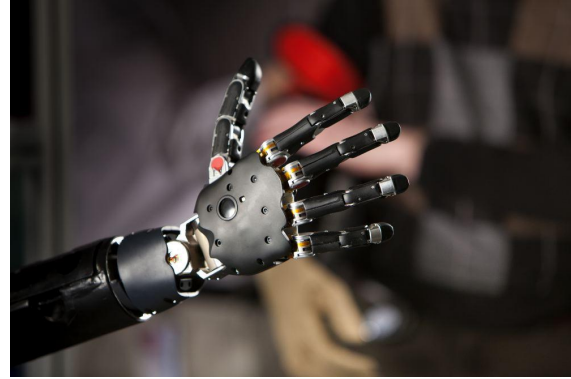
3. Computer makes a prediction with a new "X"

These are my brainwaves. What color am I looking at?

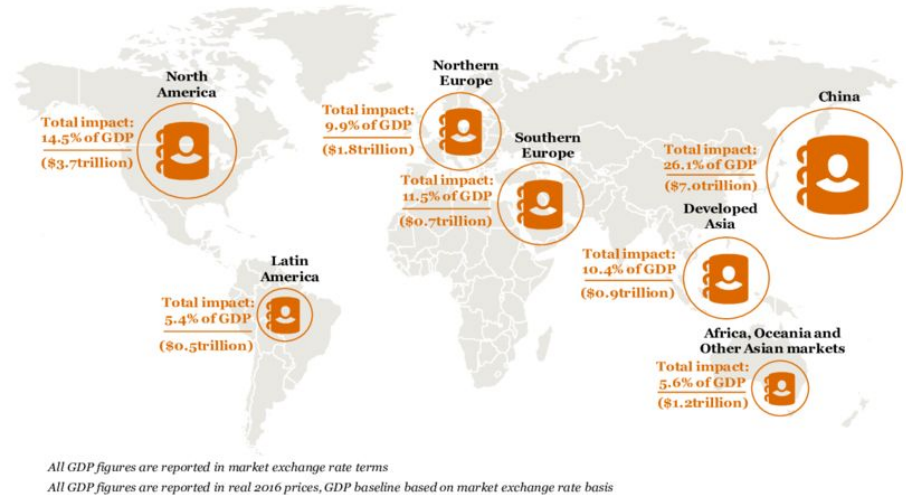Back to Video

"Mind Reading"... Any Uses?

Discussion

- Amputees, Disabilities

- Surveillance

Economic Projections

- McKinsey Global Institute: 13 trillion dollars
  - $13,000,000,000,000
- World Economic Forum: 133 million new jobs by 2022
  - 75 million lost
  - All related jobs

North America
Total impact: 14.5% of GDP ($3.7trillion)

Northern Europe
Total impact: 9.9% of GDP ($1.8trillion)

Southern Europe
Total impact: 11.5% of GDP ($0.7trillion)

China
Total impact: 26.1% of GDP ($7.0trillion)

Developed Asia
Total impact: 10.4% of GDP ($0.9trillion)

Latin America
Total impact: 5.4% of GDP ($0.5trillion)

Africa, Oceania and Other Asian markets
Total impact: 5.6% of GDP ($1.2trillion)

All GDP figures are reported in market exchange rate terms
All GDP figures are reported in real 2016 prices, GDP baseline based on market exchange rate basis

What can you do with AI?

Machine Learning Engineer/Data Scientist

- Making the decision models

  - Programming, algorithms, data structures

- Median Salary: $114,000

  - Can be a lot more w/ experience and company

- Education

Policy/Journalism

- Increase in AI demands increase in coverage

  - Describing technology

- Policy will involve increasing knowledge of AI

  - Relevance in military technology, cybersecurity, economy

    - Analysis of government data

  - Why?

Minister in Charge of Japan's Cybersecurity Says He Has Never Used a Computer
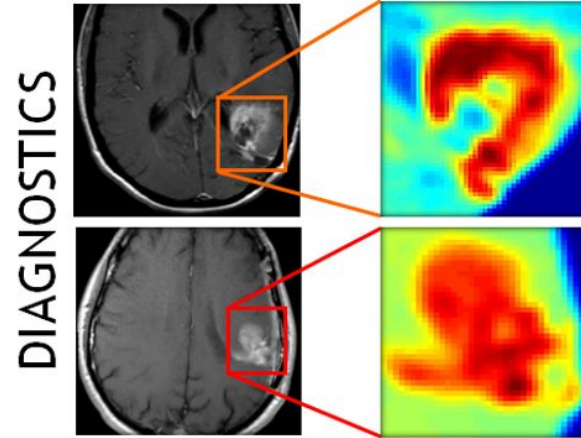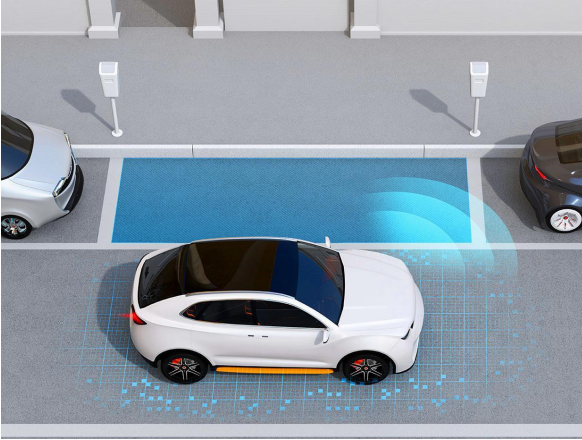

Yoshitaka Sakurada, left, who heads the Japanese government's cybersecurity office, said he had no need to learn to use a computer. Jiji Press/Agence France-Presse — Getty Images

Entrepreneurship/ Non-Profit

- 14x increase in active AI startups since 2000

- 2019: Nearly $20 billion Venture Capital Investment

- virtual assistants (Alexa, Siri, etc.), healthcare, GANs

- Non-profits: Uses and Inequality

Lots of Uses!

DIAGNOSTICS

https://thispersondoesnotexist.com/

Questions?

Cool resources to check out:

- quickdraw.withgoogle.com
- teachable machine
- Thispersondoesnotexist.com