

The background of the slide features a dark, moody aesthetic. In the upper half, a brain is depicted using a complex network of white and gold circuit lines, with small circular nodes at various points. The lower half of the image shows a blurred, close-up view of a computer keyboard, with keys and their legends visible but out of focus. The overall color palette is dark, with shades of grey, black, and muted blue, accented by the white and gold of the circuitry.

Artificial Intelligence and Machine Learning

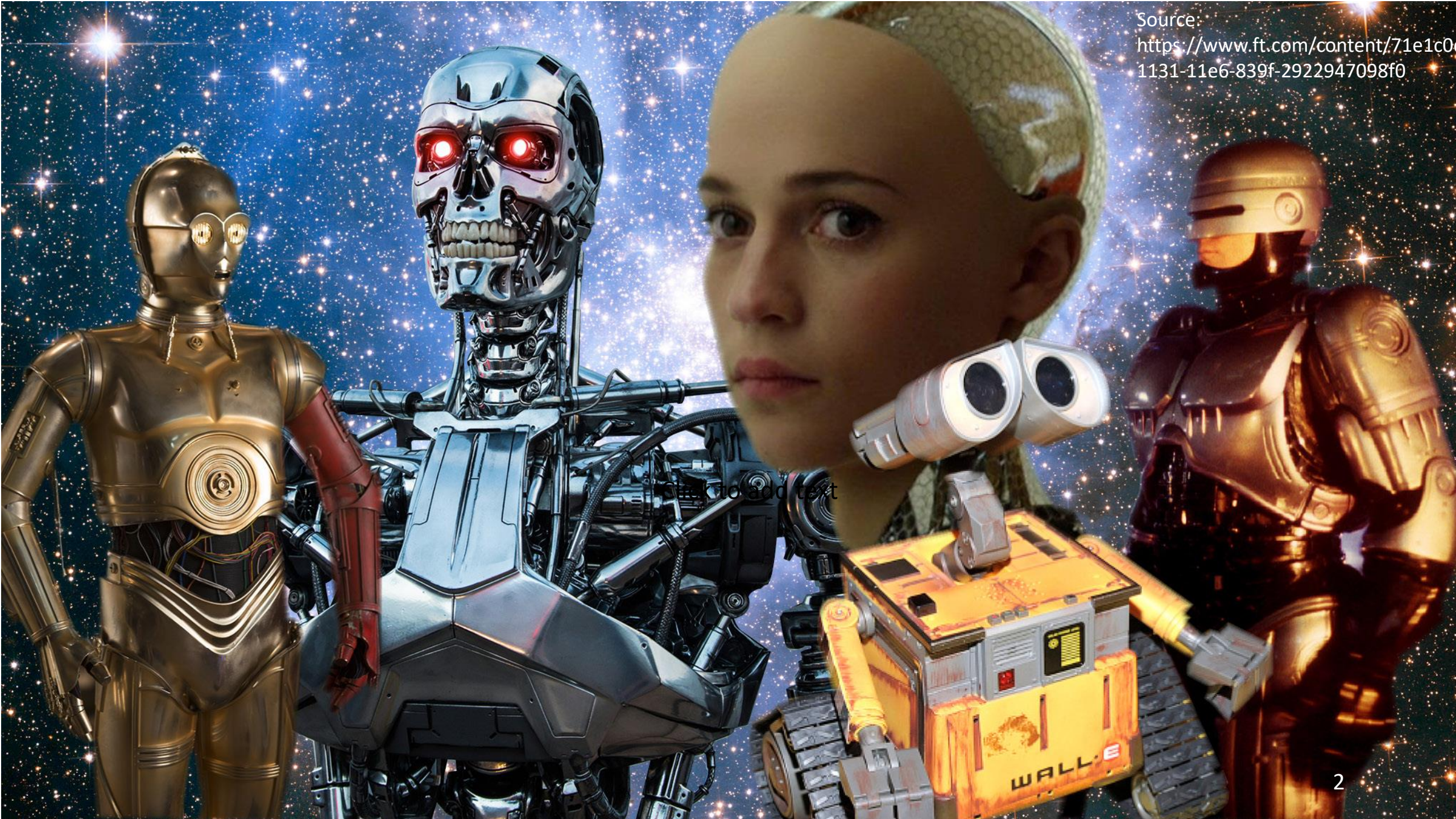
Rabin Adhikari

PUL074BCT029

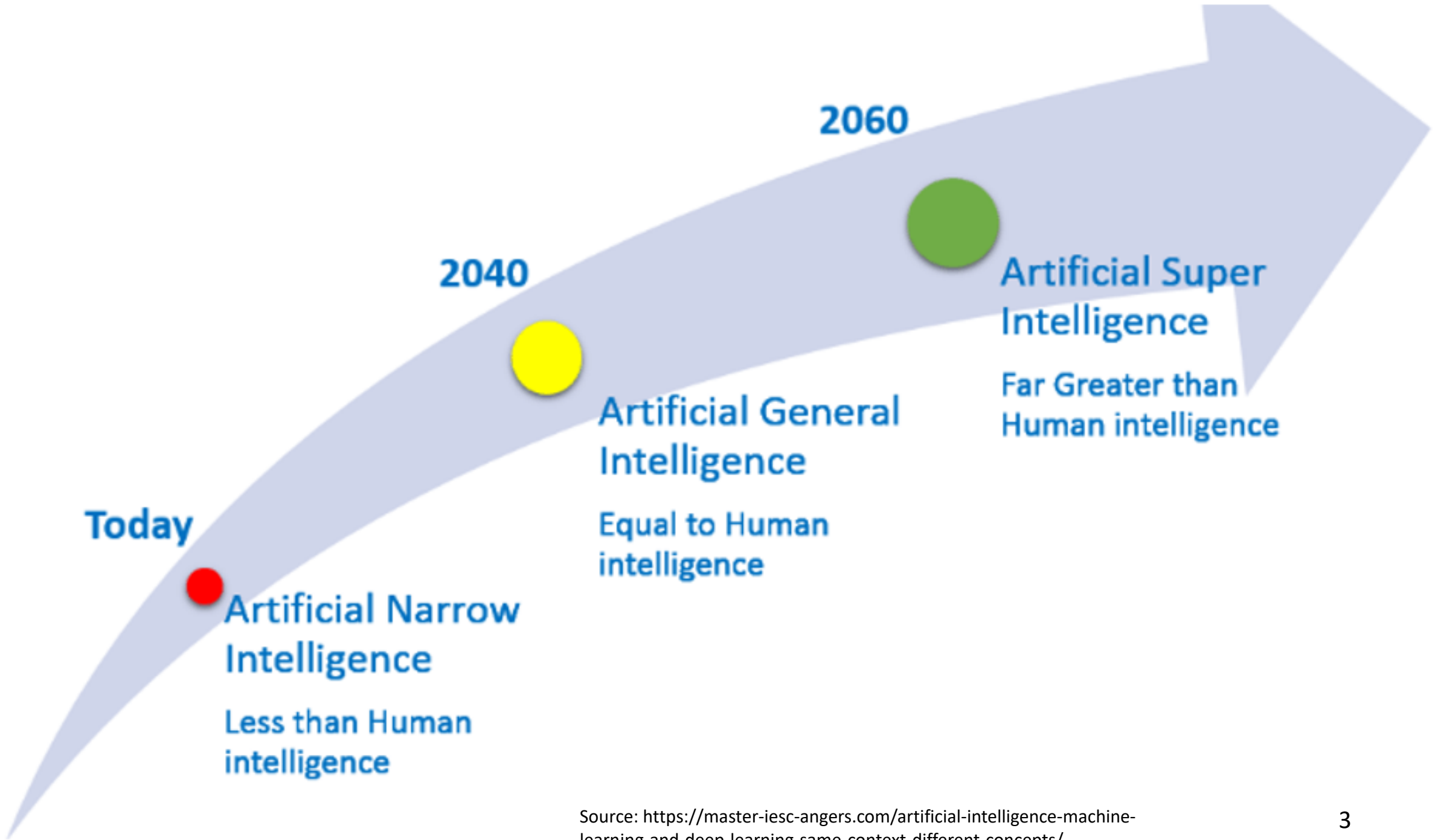
Research Assistant

NAAMII

Source:
<https://www.ft.com/content/71e1c011-11e6-839f-2922947098f0>

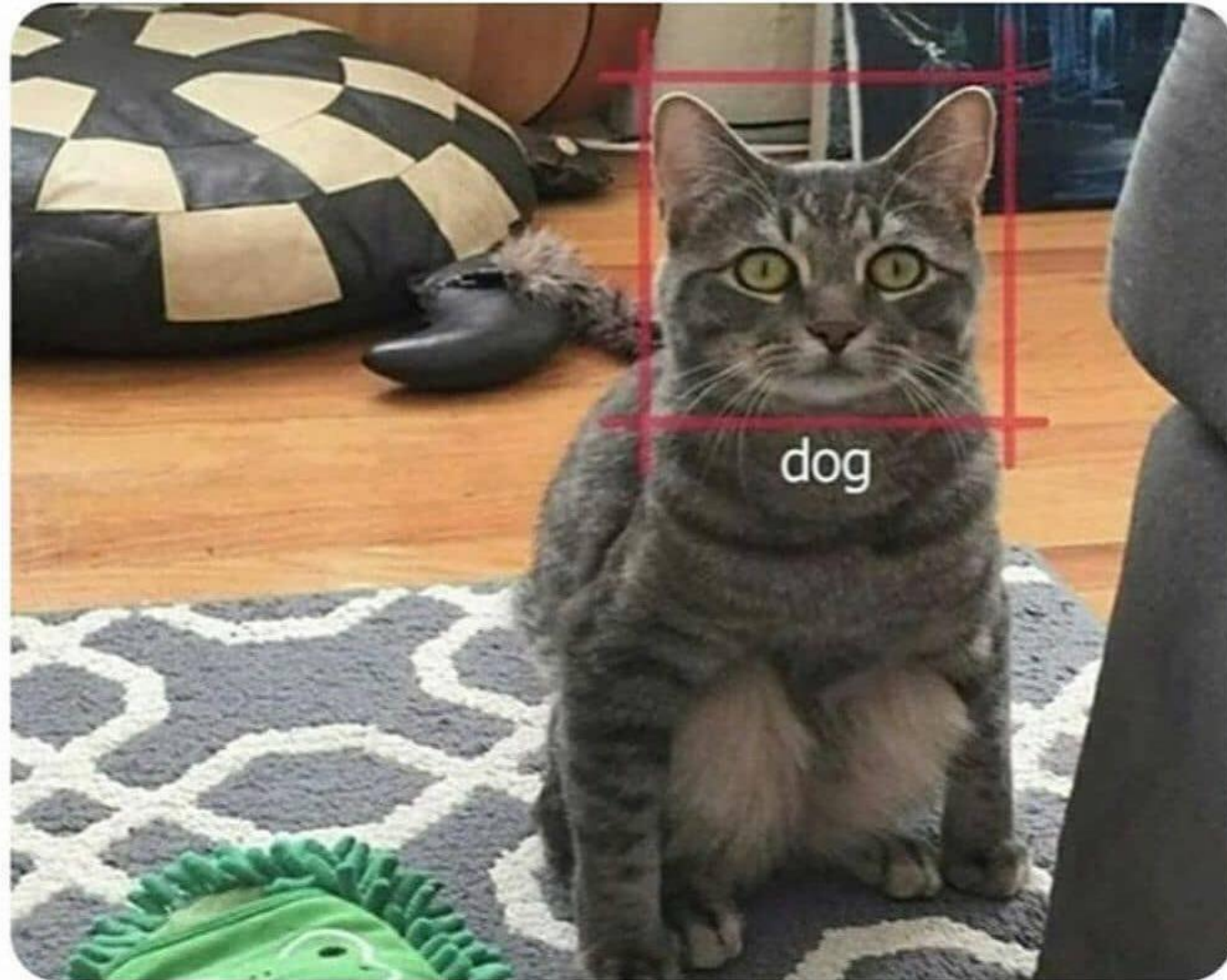


Click to add text



90's Media: AI WILL DESTROY
THE WORLD IN A DECADE

That AI today:



The background of the slide features a close-up photograph of an elephant's trunk on the left, reaching towards a human hand on the right. The hand is holding a small, green, cucumber-like object. The scene is set against a blurred background of trees and foliage, suggesting a natural habitat. The text is overlaid on this image.

What is Artificial Intelligence?

- intelligence demonstrated by machines, as opposed to the natural intelligence displayed by animals
- perceives its environment and takes actions that maximize its chance of achieving its goals

Are AI, ML, and DL the same?

ARTIFICIAL INTELLIGENCE

Any technique that enables computers to mimic human behavior



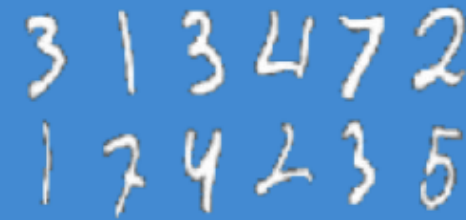
MACHINE LEARNING

Ability to learn without explicitly being programmed



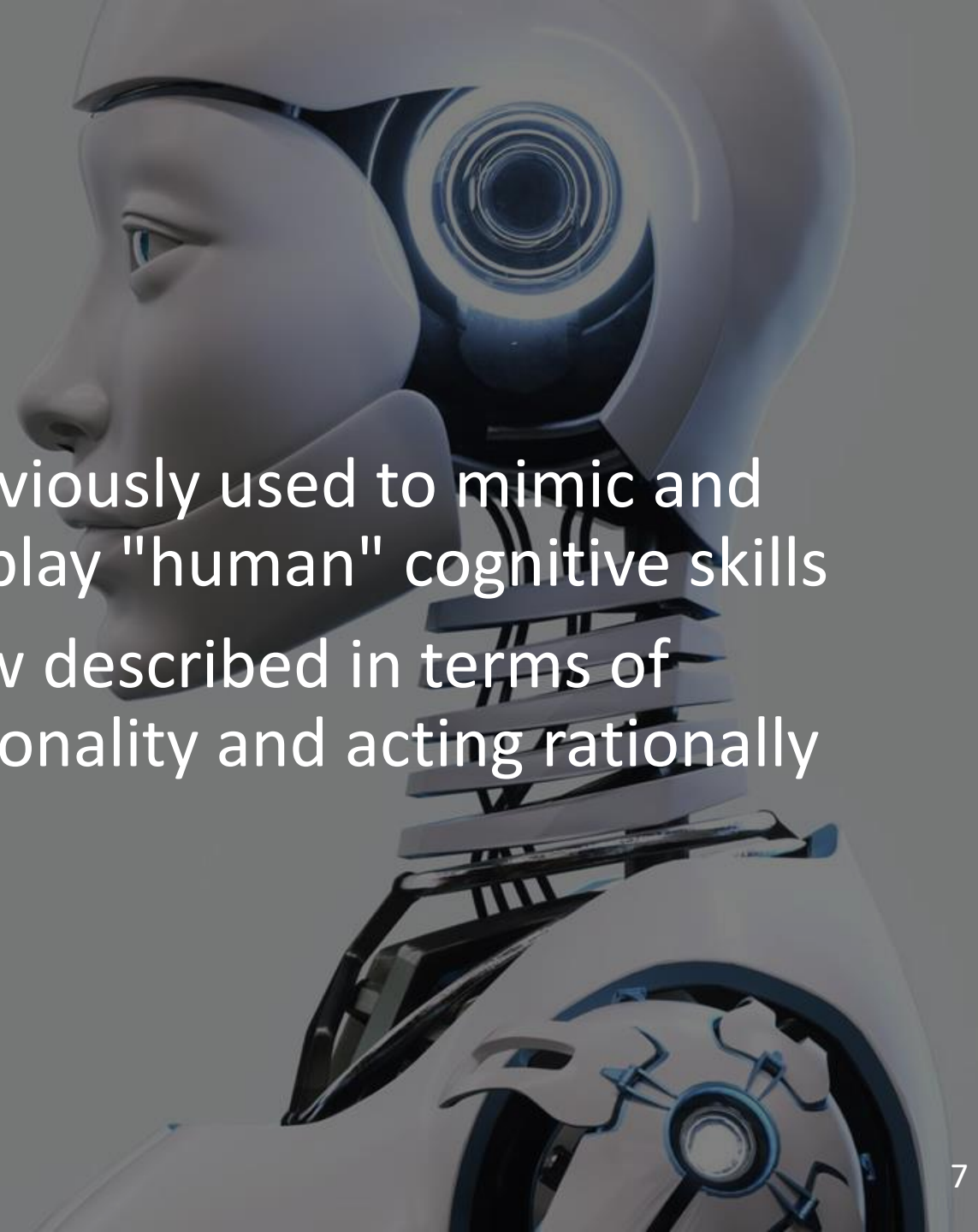
DEEP LEARNING

Extract patterns from data using neural networks



Is AI just about mimicking Human Behaviour?

- previously used to mimic and display "human" cognitive skills
- now described in terms of rationality and acting rationally



AI Applications



search engines



recommendation
systems



Speech
recognition



self-driving cars



competing at
games

Skills Needed in this Field



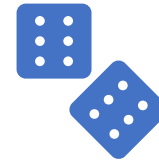
Programming
(mainly on Python)



Linear Algebra



Multivariate
Calculus



Probability (esp.
Conditional one)

AI Inspiration

Human Brain

Evolution

Types of Learning



Supervised Learning



Unsupervised Learning



Reinforcement Learning

$$F = G \frac{m_1 m_2}{d^2}$$

Where to
Start?

- Gilbert Strang's lecture on Linear Algebra
- Andrew Ng's course on ML
- 3Blue1Brown Playlists
- Some other courses on OCW and Coursera

$$\frac{df}{dt} = \lim_{h \rightarrow 0} \frac{f(t+h) - f(t)}{h}$$

With Great Power Comes Great Responsibility

Google Photos Tags Two African-Americans As Gorillas Through Facial Recognition Software

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I write about technology, innovation, and startups.

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When Brooklyn-native [Jacky Alcine](#) logged onto [Google](#) Photos on Sunday



Any Questions?