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artificial intelligence & creativity

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"Any sufficiently advanced ***technology*** *is indistinguishable from* ***magic****."*

Arthur C. Clarke

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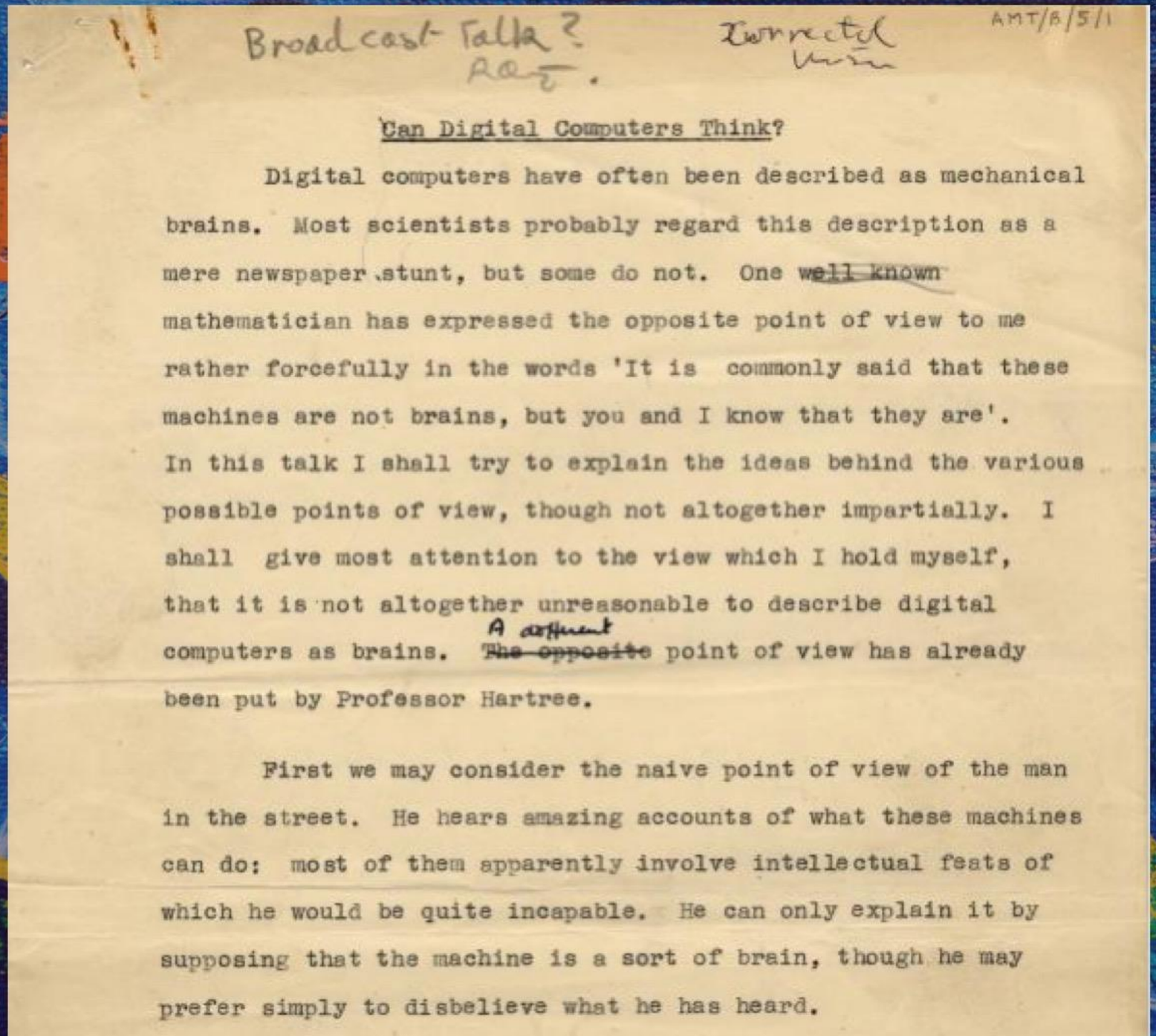

Broadcast Talk? Part. Corrected version AMT/B/5/1

Can Digital Computers Think?

Digital computers have often been described as mechanical brains. Most scientists probably regard this description as a mere newspaper stunt, but some do not. One ~~well known~~ mathematician has expressed the opposite point of view to me rather forcefully in the words 'It is commonly said that these machines are not brains, but you and I know that they are'. In this talk I shall try to explain the ideas behind the various possible points of view, though not altogether impartially. I shall give most attention to the view which I hold myself, that it is not altogether unreasonable to describe digital computers as brains. ~~The opposite~~ A different point of view has already been put by Professor Hartree.

First we may consider the naive point of view of the man in the street. He hears amazing accounts of what these machines can do: most of them apparently involve intellectual feats of which he would be quite incapable. He can only explain it by supposing that the machine is a sort of brain, though he may prefer simply to disbelieve what he has heard.

Can digital computers think?

Alan M. Turing
15 May 1951

Source: turingarchive.org

If now some particular machine can be described as a brain we have only to programme our digital computer to imitate it and it will also be a brain. If it is accepted that real brains, as found in animals, and in particular in men, are a sort of machine it will follow that our digital computer suitably programmed, will behave like a brain.

Can digital computers think?

Alan M. Turing
15 May 1951

Source: turingarchive.org


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can computers be
creative?


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creativity


Globant
cre·a·tiv·i·ty
✔ the ability to create


Globant
cre·a·tiv·i·ty
✔ the ability to create
✔ the use of the imagination or original ideas, especially in the production of an artistic work


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part
1
concepts

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artificial intelligence

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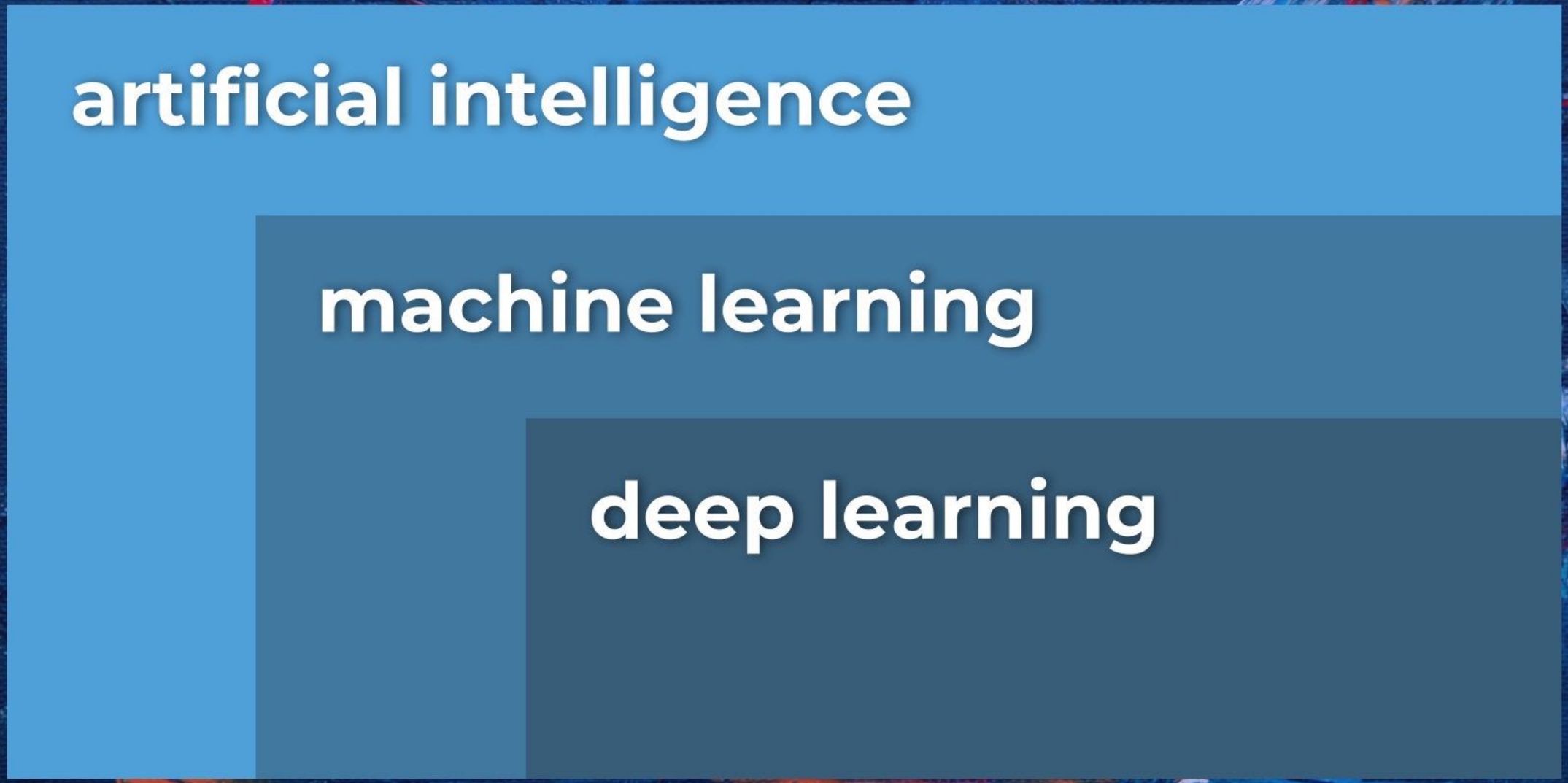
artificial intelligence

machine learning



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machine learning

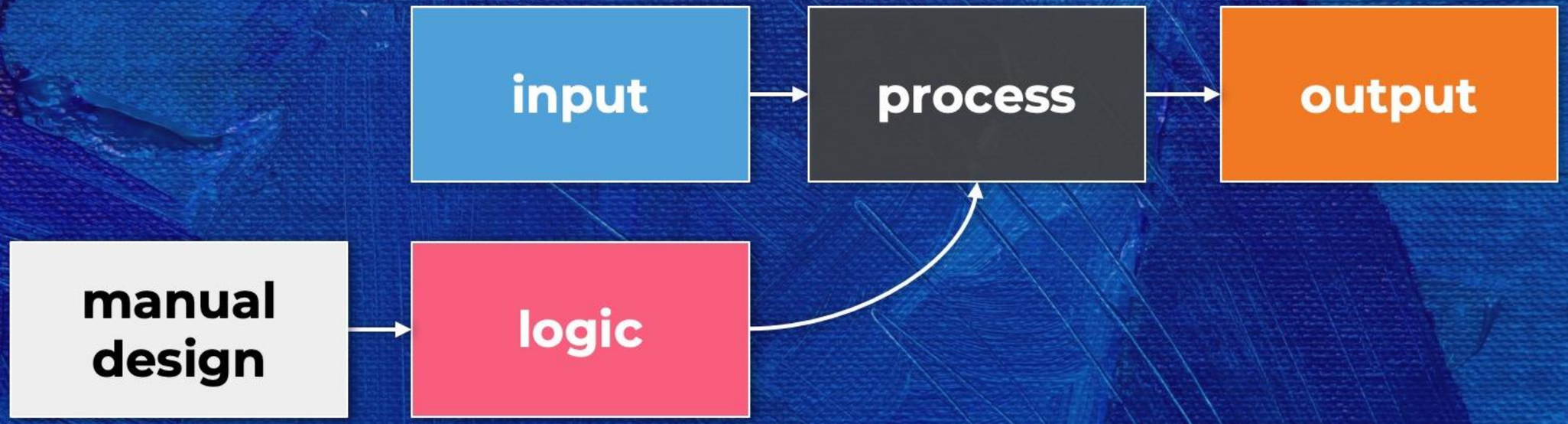
The subfield of computer science that "gives computers the ***ability to learn without being explicitly programmed****."*

Essentially, a machine learning algorithm learns how to **make decisions from the data**.

"old" paradigm

"old" paradigm

"old" paradigm



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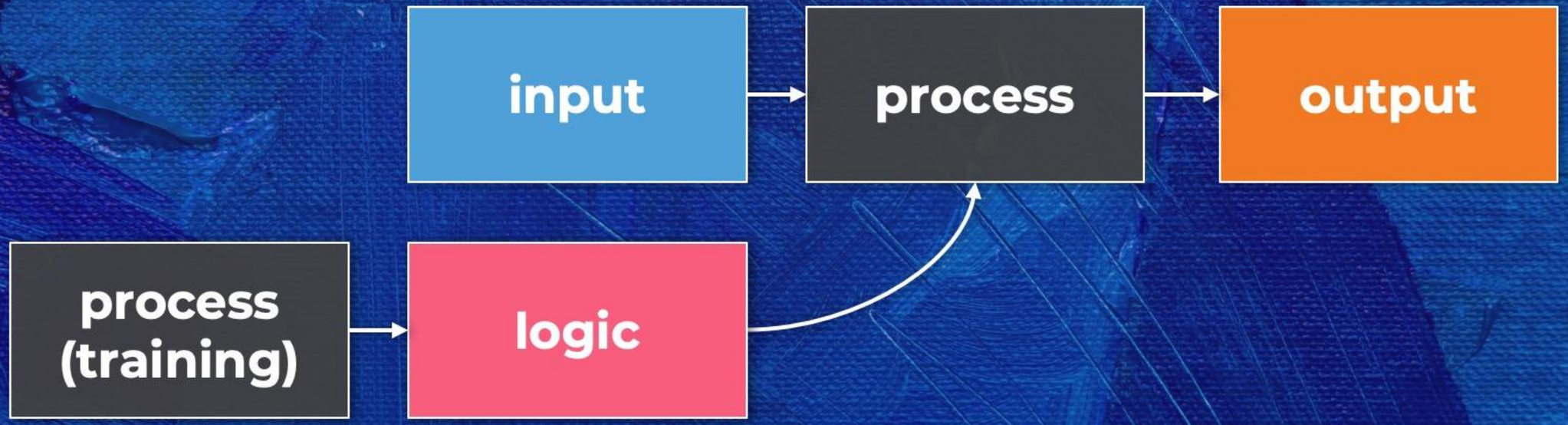
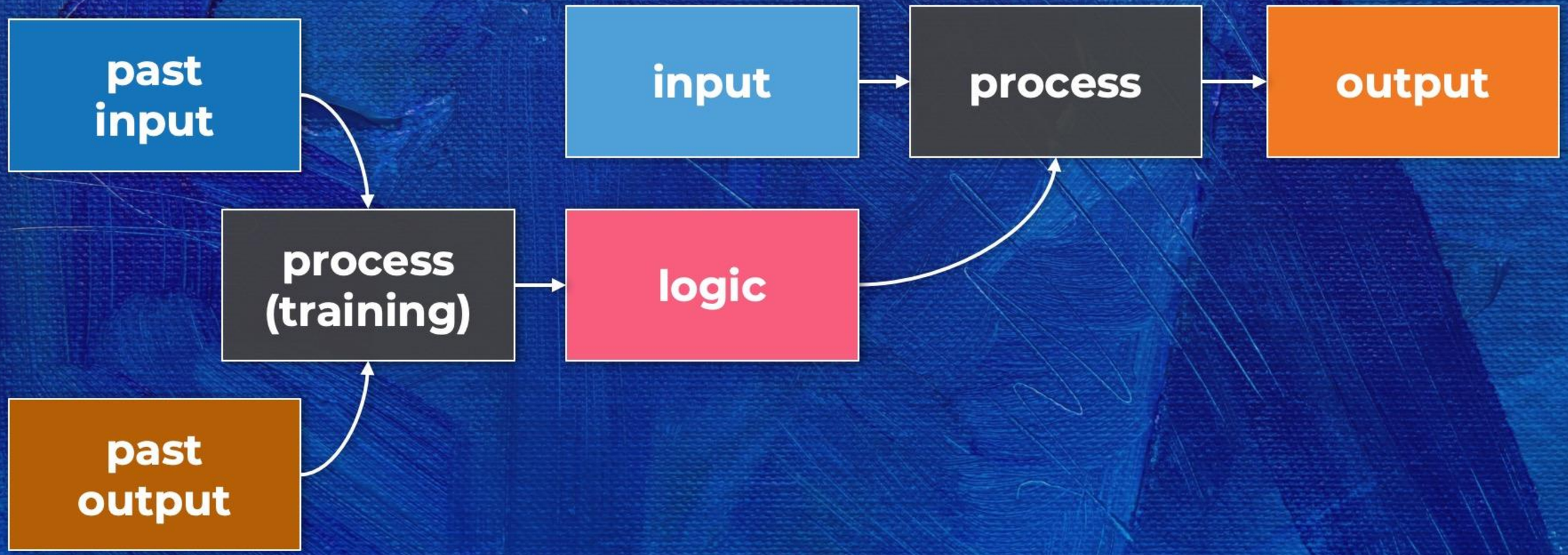
new paradigm

new paradigm

new paradigm



new paradigm



REMEMBER!

"old" paradigm → logic is **MANUALLY** designed

new paradigm → logic is **LEARNED FROM DATA**

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deep learning

Deep learning is part of a broader family of machine ***learning methods based on artificial neural networks***.

DL algorithms uses multiple layers to progressively **extract higher level features from the raw input**.

IS THIS A

CAT or DOG?

CAT DOG

OUTPUT LAYER

ACTIVATED NEURONS

INPUT LAYER

DEEP *neural* NETWORK


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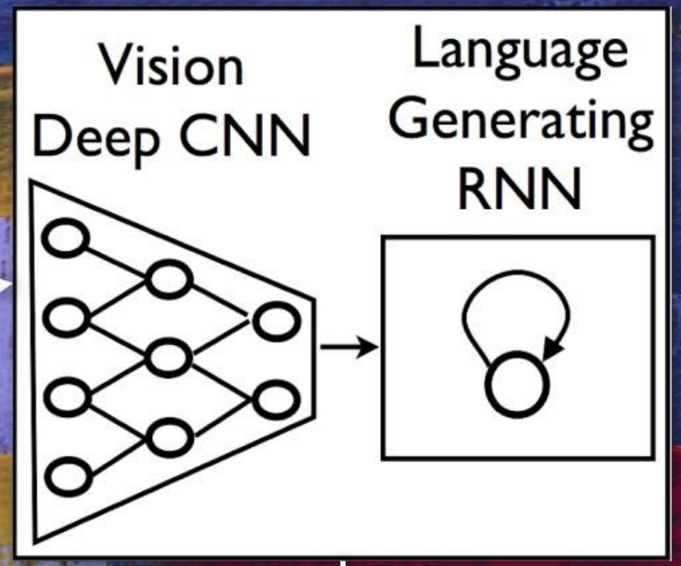
part
2
examples


Want to tag Clark Kent?
Yes - No
Lois Lane
Just now
Charming as always~
Thanks Jimmy for the pic!
Like
Comment
Share
Set as Background
Write a comment...
facebook.com/MAKISDRAWING



a close up of a plate of food with broccoli

this small bird has a yellow breast, brown crown, and black superciliary

a flower with long pink petals and raised orange stamen.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part
3
creativity


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minolta
XG 1
MINOLTA
MD ROKKOR-X
FE 4/16-35
Vario-Tessar
Carl Zeiss


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Before
After


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Gear VR
Gear VR


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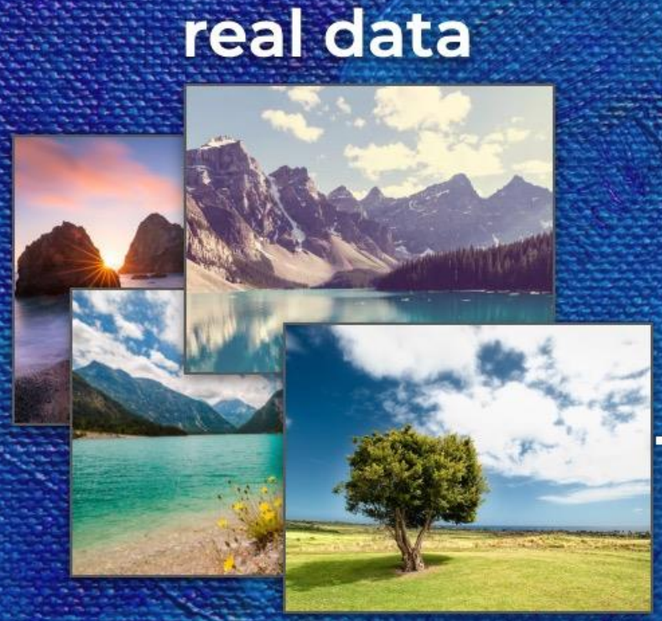
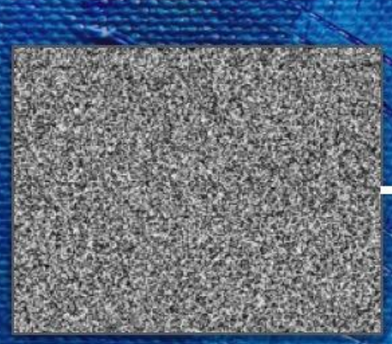
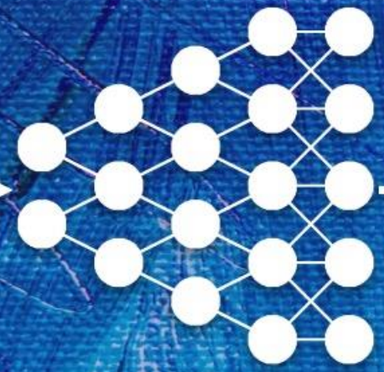
generative adversarial networks **(GANs)**







These are not real people

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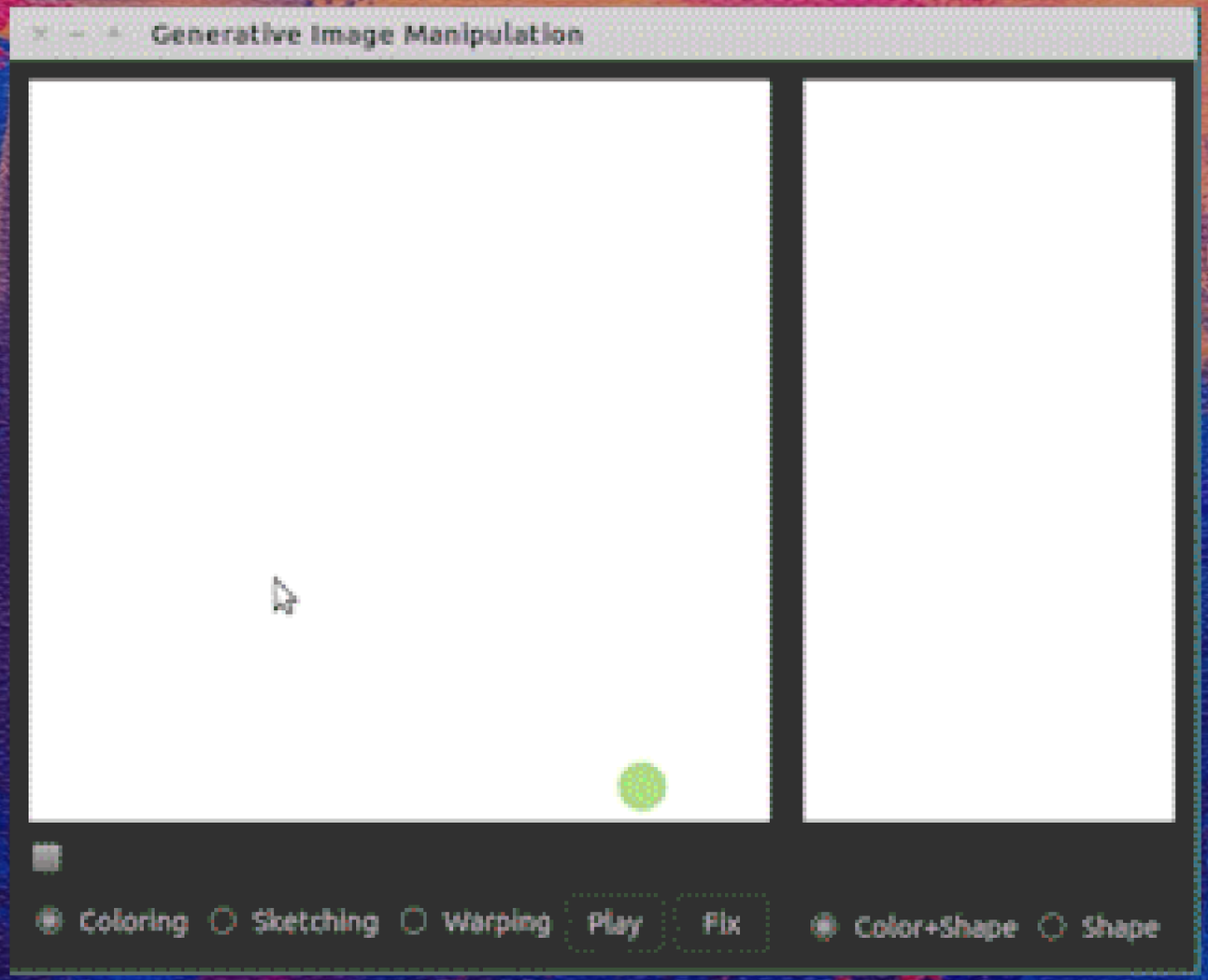
generative tools!



Learning talking heads from few examples

Training frames:

Driving sequence

Landmarks detector

Face landmarks

Learned talking head

Living portraits




Given only the audio of a speaker as input,

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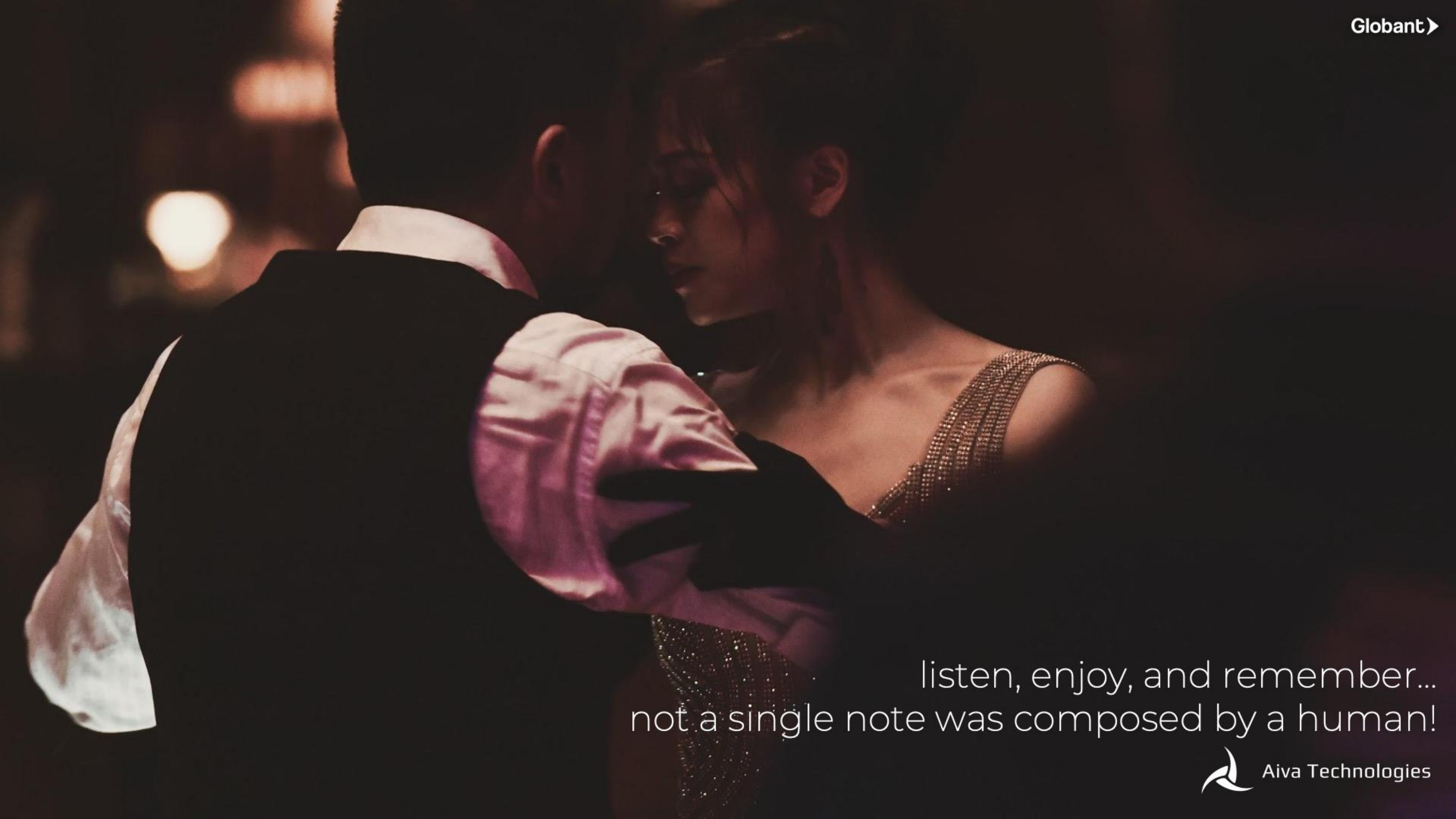
ai for music generation

Aiva Technologies

www.aiva.ai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listen, enjoy, and remember...
not a single note was composed by a human!
Aiva Technologies

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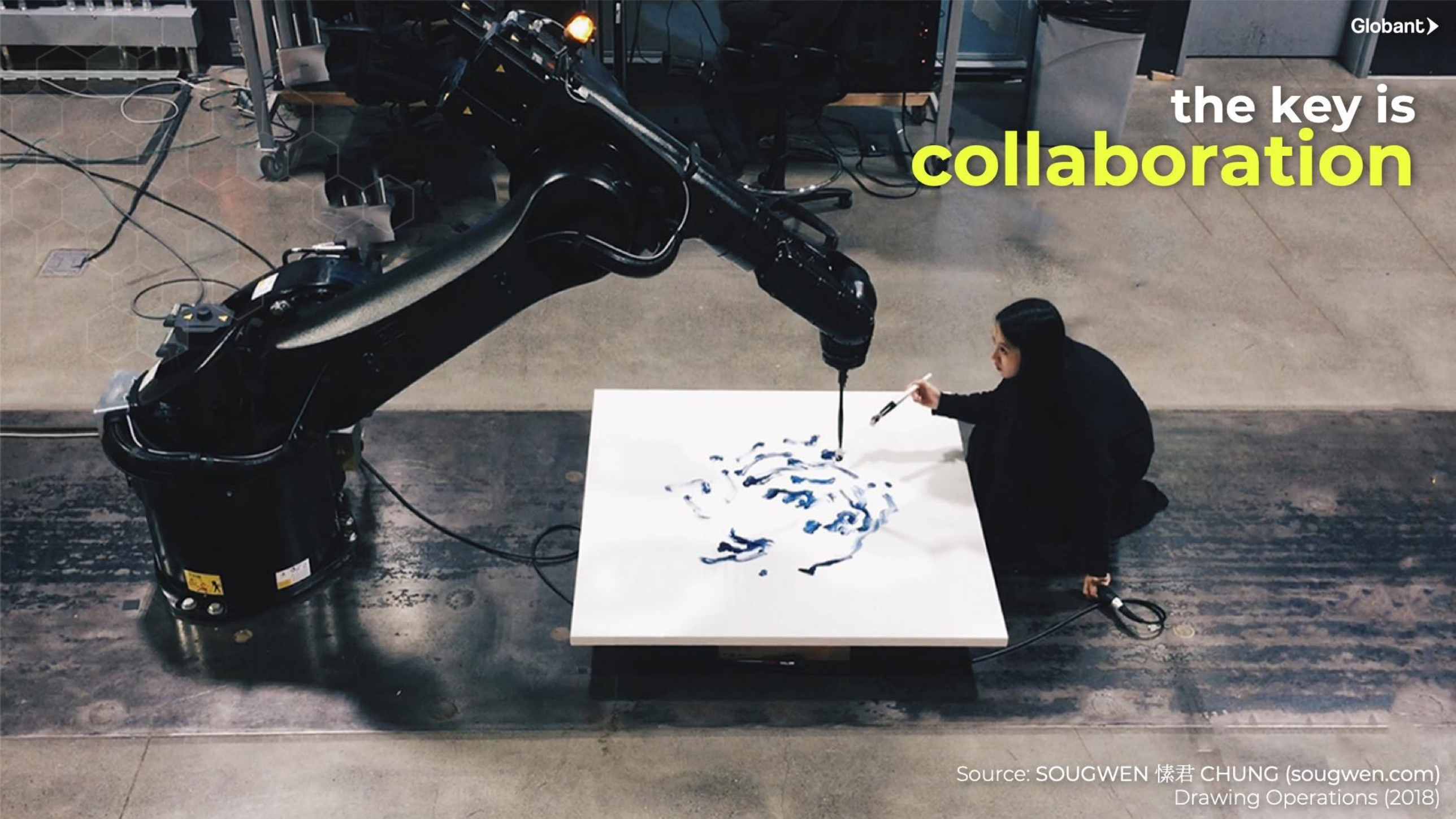
the key is collaboration



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Drawing Operations (2018)


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the key is
collaboration
thanks!
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Drawing Operations (2018)