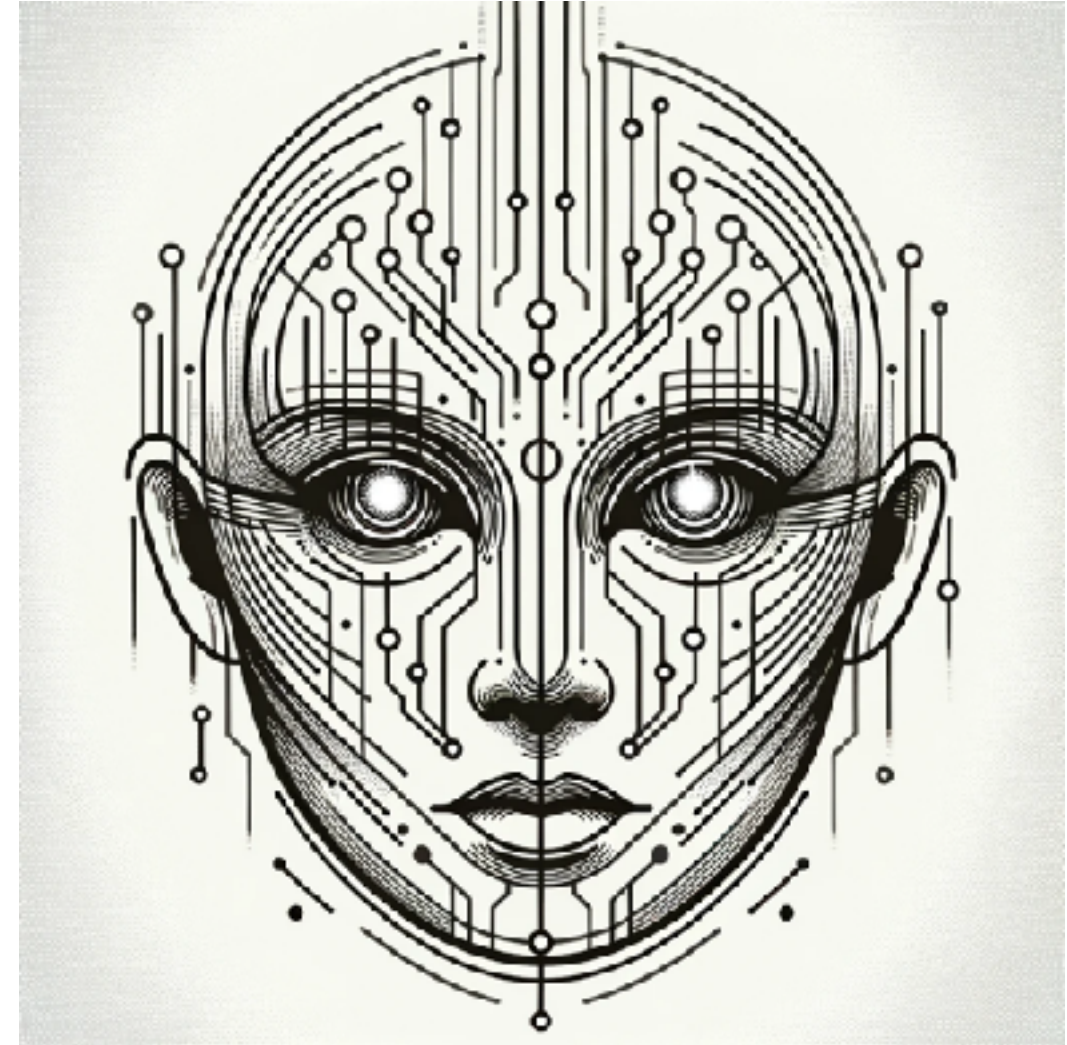


# Generative AIs in Learning & Teaching

The case against



Self portrait - ChatGPT4



**Athabasca University**  
FACULTY OF SCIENCE & TECHNOLOGY  
School of Computing & Information Systems



**IFNTF**

International Federation of  
National Teaching Fellows

**LUNCH N LEARN: Jon Dron, Nov 30**

# A few bad things I will *not* discuss today...



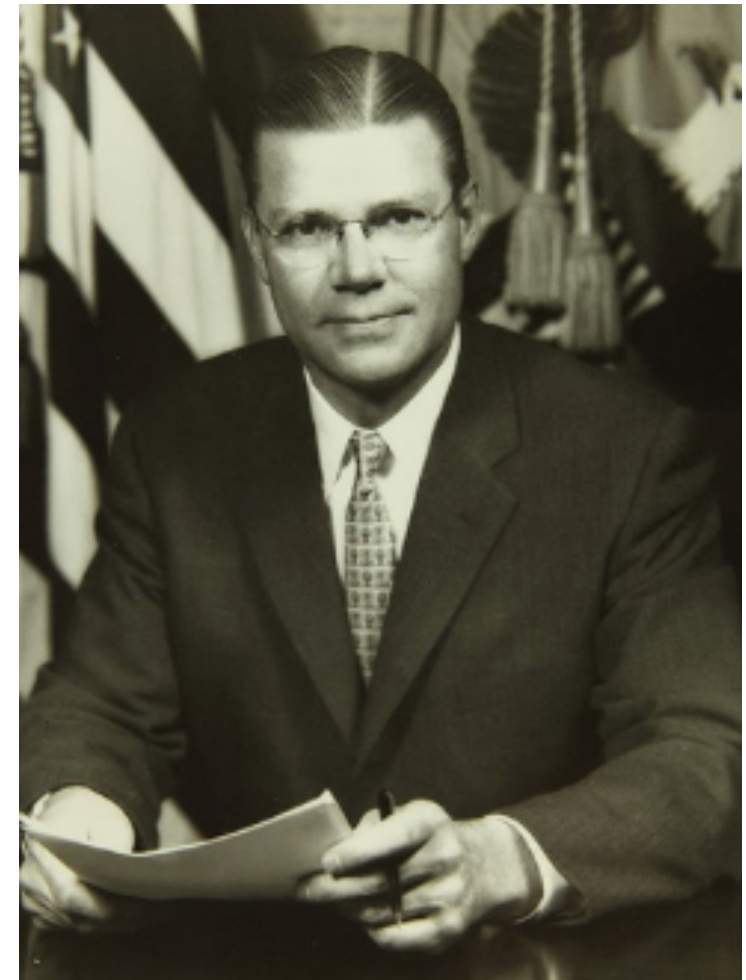
The AI apocalypse in the style of Leonardo

- hallucinations and unreliability
- student cheating
- bias
- the ethics of AI training
- privacy
- ownership of infrastructure
- job losses
- exploitation of creators
- environmental impacts
- the AI apocalypse

# McNamara's Fallacy

“The first step is to measure whatever can be easily measured. This is OK as far as it goes. The second step is to disregard that which can't be easily measured or to give it an arbitrary quantitative value. This is artificial and misleading. The third step is to presume that what can't be measured easily really isn't important. This is blindness. The fourth step is to say that what can't be easily measured really doesn't exist. This is suicide.”

—Daniel Yankelovich "Corporate Priorities: A continuing study of the new demands on business." (1972)



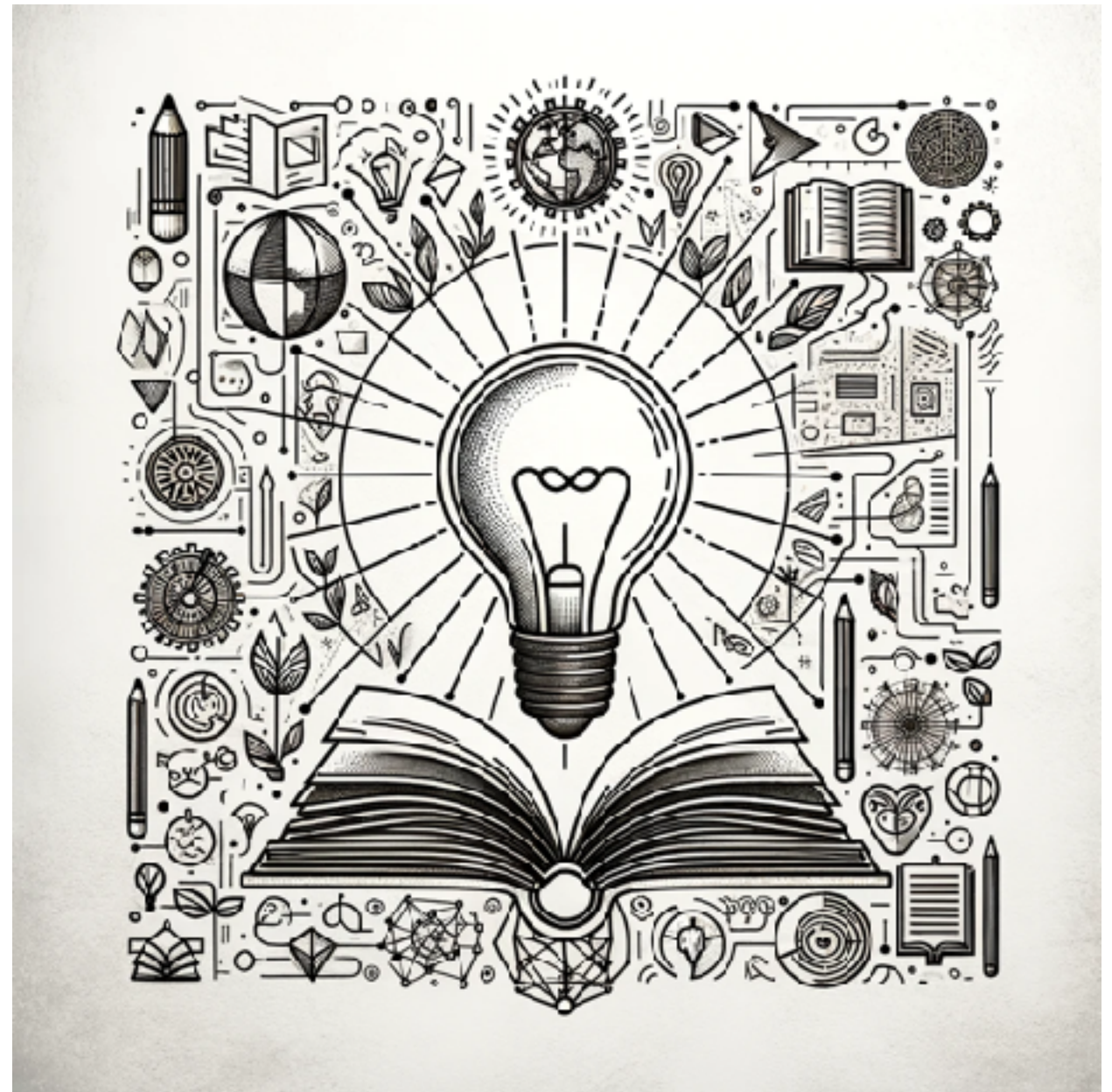
Robert McNamara

See, too, Goodhart's Law - when a measure becomes a target it ceases to be a good measure

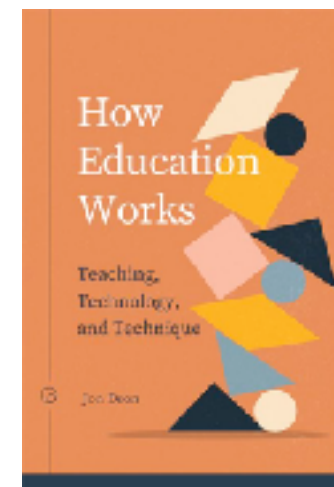


# Education

**In part...**  
**a means for developing**  
**the techniques needed**  
**to participate in our**  
**societies**



# A technology built from countless technologies, including pedagogies



# If education is a technology, what is it for?

# Measurable

## Not so measurable

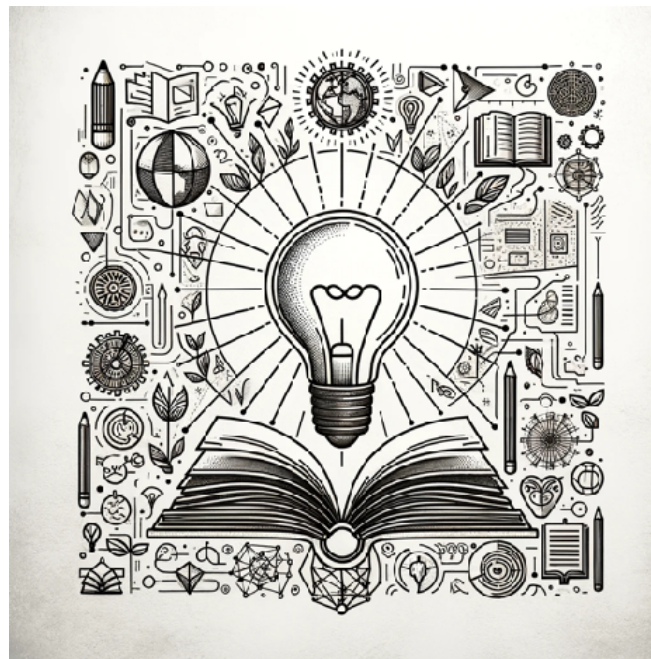
# Achieving learning outcomes

# Gaining credentials

## Learning useful skills

# Remembering important facts

# Learning how to behave



# Learning to think

# Learning values

# Learning to live, work, and play with others

# Learning to live well

# Learning to adapt

# Sustaining happy, safe societies

# But it's intertwined...

Providing a skilled workforce

Providing employment

Political gain

Generating products

Providing child care

Profits for publishers

Non-profitable research

Keeping young people off the streets

Keeping dreamers off the streets

Supporting cheating companies

Supporting local businesses

Religious/political indoctrination

Services to communities

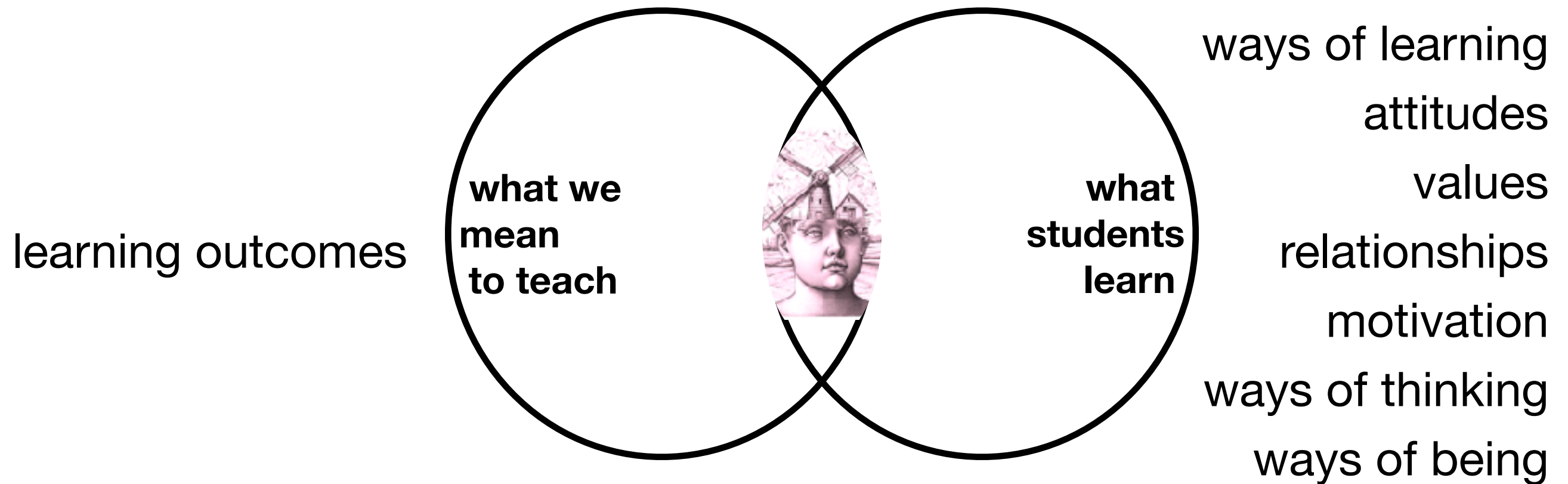


etc. etc. etc.



# The grist

# The mill



**How to do stuff**



**How to be human  
in a human society**



**What happens when we learn to  
be human from things that are  
not (quite) human?**



Until now, automation has replaced only **hard** technique

Generative  
Als automate  
and replace  
**soft**  
technique





# The originality of machines: AI takes the Torrance Test

Erik E. Guzik<sup>a</sup>, Christian Byrge<sup>b</sup>, Christian Gilde<sup>c</sup>

Show more

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<https://doi.org/10.1016/j.joc.2023.100065>

Under a Creative Commons license

## Highlights

- GPT-4 ranked in the top percentile for originality and fluency on the Torrance Tests of Creative Thinking.
- Flexibility for GPT-4 ranged from the 93rd to the 99th percentile.
- The creative abilities of AI, including the ability to generate original output, seem to now match human abilities for the first time.

ARTIFICIAL INTELLIGENCE & ROBOTICS

# Latest version of ChatGPT aces bar exam with 90th percentile

BY DEBRA CAS

MARCH 16, 2023



Tweet

Conferences > 2021 5th International Confer...

## GALGOBOT – The College Companion Chatbot

Publisher: IEEE

File Title

PDF

Saksham Saraswat; Siddhartha Mishra; Vikas Mani; Shristi Priya All Authors

5

Cites in  
Papers

291

Full  
Text Views

## Abstract

Document Sections

I. Introduction

## Abstract:

College Campuses are huge in terms of the area they cover. would have to travel to various departments gathering segm GALGOBOT eases the query solving process by saving time

ORIGINAL RESEARCH article

Front. Artif. Intell., 24 May 2023  
Sec. AI for Human Learning and Behavior Change  
volume 5 | 2023 | <https://doi.org/10.3389/fai.2023.1159350>

# Human-like problem-solving abilities in large language models using ChatGPT

Graziella Orrù, Andrea Piarulli, Ciro Conversano, Angelo Gemignani

## AI companions to replace the prospectus?

## AI tests into top 1% for original creative thinking

Date: July 5, 2023

Source: The University of Montana

Summary: New research suggests artificial intelligence can match the top 1% of human thinkers on a standard test for creativity.

Share: f t p in

## RELATED TOPICS

Mind & Brain

> Creativity

> Intelligence

> Educational

## ChatGPT, DALL-E 2 and the collapse of the creative process

Published: January 12, 2023 8:21 AM EST

Does the moment of imagination carry more value than the work of making something real? [Read more](#)

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In 2022, OpenAI – one of the world's leading artificial intelligence research laboratories – released the text generator [ChatGPT](#) and the image generator [DALL-E 2](#). While both programs represent monumental leaps in natural language processing and image generation, they've also been met with apprehension.

Some critics have [eulogized the college essay](#), while others have even [proclaim the death of art](#).

## Can ChatGPT Understand Too?

## A Comparative Study on ChatGPT and Fine-tuned

Guang Zhong<sup>◇,R\*</sup>, Liang Ding<sup>R,b</sup>, Juhua Liu<sup>◇</sup>, Bo Du<sup>◇</sup>, Dachuan

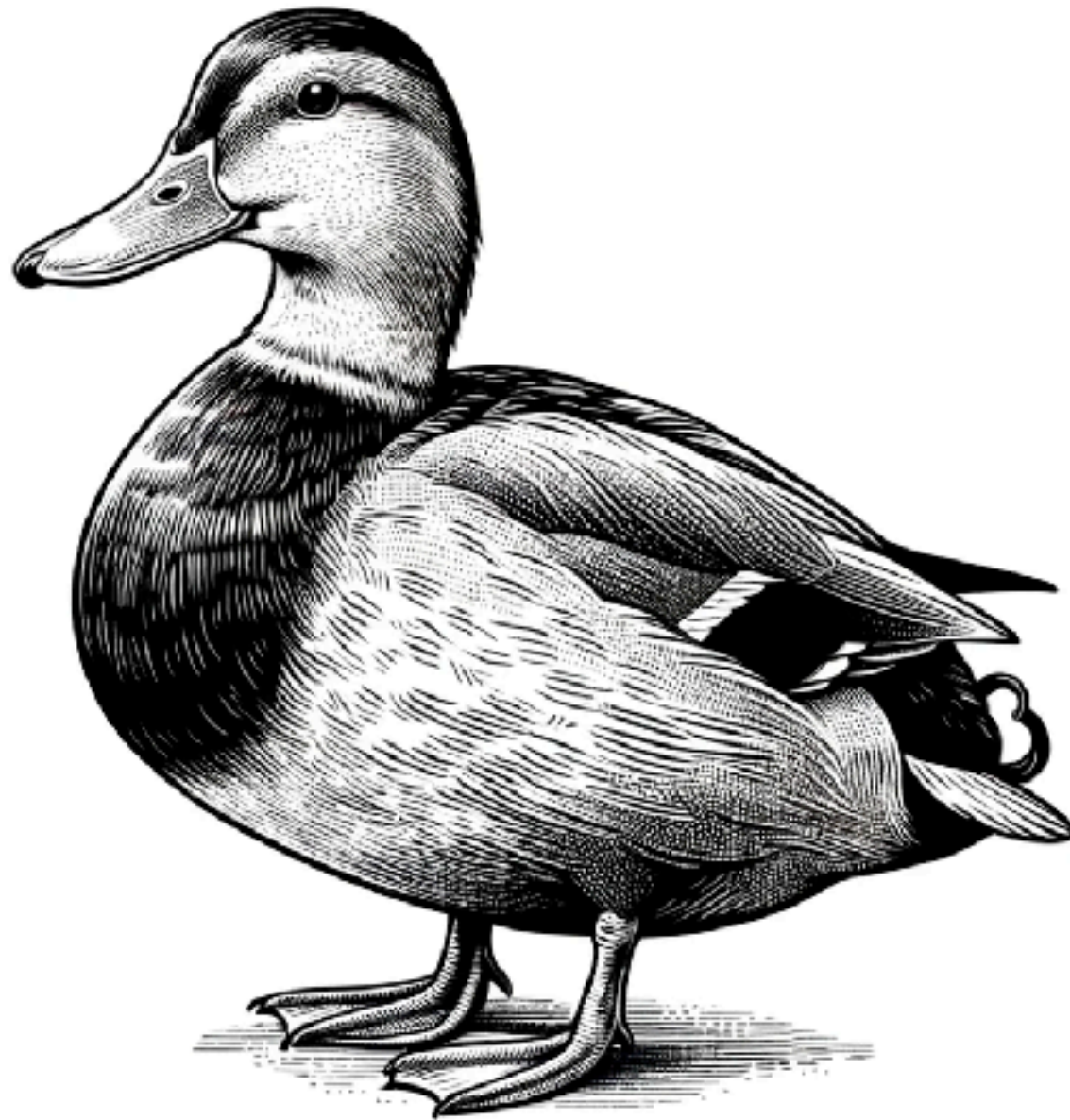
Wuhan University <sup>R</sup> JD Explore Academy, JD.com Inc. <sup>b</sup> University

zhongqihuang@whu.edu.cn, dingliang1@jd.com



<https://github.com/WHU-70H/ChatGPT-vs-BERT>

**If it walks like a duck...**





# But...

## ChatGPT doesn't have to empty the cat litter tray



# No one will ever pay \$5m for an original ChatGPT manuscript



Part of the manuscript of Mahler's 2nd symphony

**Or \$2.4m for a  
cheap guitar played  
by someone  
famous....**



John Lennon's Gibson J-160E



**No identity**

**No relationship**

**No values**

**No passion**

**No beliefs**

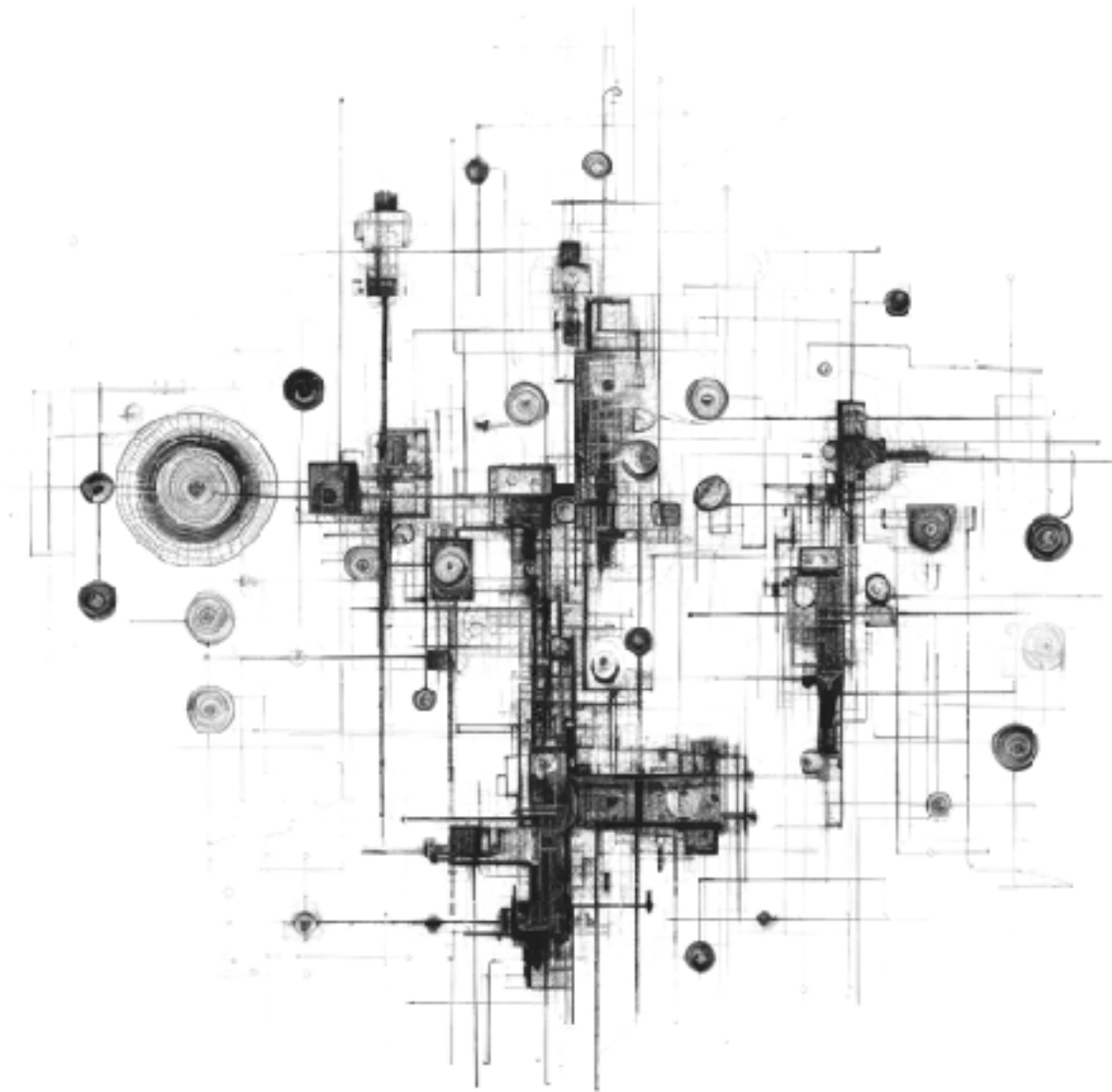
**No life history**

**No intention**

***No skin in the game***



# Signals, but no signification





WE SHAPE OUR DWELLINGS AND AFTERWARDS  
THEIR FORMS SHAPE OF OUR LIVES.  
- CHURCHILL

# This doesn't scale well



# A dystopian future?

Soft skills that  
atrophy

Soft skills that  
are never learned

A loss of  
meaning



# A dystopian future?

**Learned ways of being  
that are not quite  
human**

**Machines trained on  
the output of machines**

**Machines trained on  
the output of people  
who are taught by  
machines**



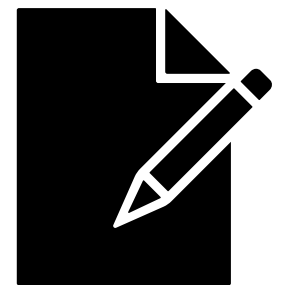
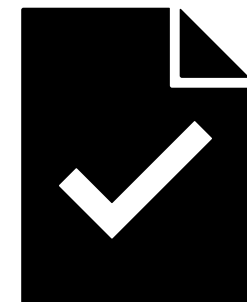
# A few mitigations...

**GenAIs with separate, non-overlapping roles**



**GenAIs to support human connection**

**Decoupling credentials  
and learning**



**Courses as communities vs courses  
as products**



# Valorizing the human in an age of machines



Free to read  
and  
download

# Thank you

Now read the paper...

Dron, J. (2023). The Human Nature of Generative AIs and the Technological Nature of Humanity: Implications for Education. *Digital*, 3(4), 319–335. <https://doi.org/10.3390/digital3040020>

<https://www.mdpi.com/2673-6470/3/4/20>

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