Television Academy

Television Academy

AI

TASK FORCE GENERATIVE AI PRIMER

Views expressed herein are of the authors and are not necessarily representative of the Television Academy or the Sci-Tech Peer Group.

What is AI/ML?

- **Predictive "AI"**

- **Generative "AI" (aka GAI)**

Both are mis-categorized as Artificial Intelligence when they are both actually just **subsets** of Machine Learning.

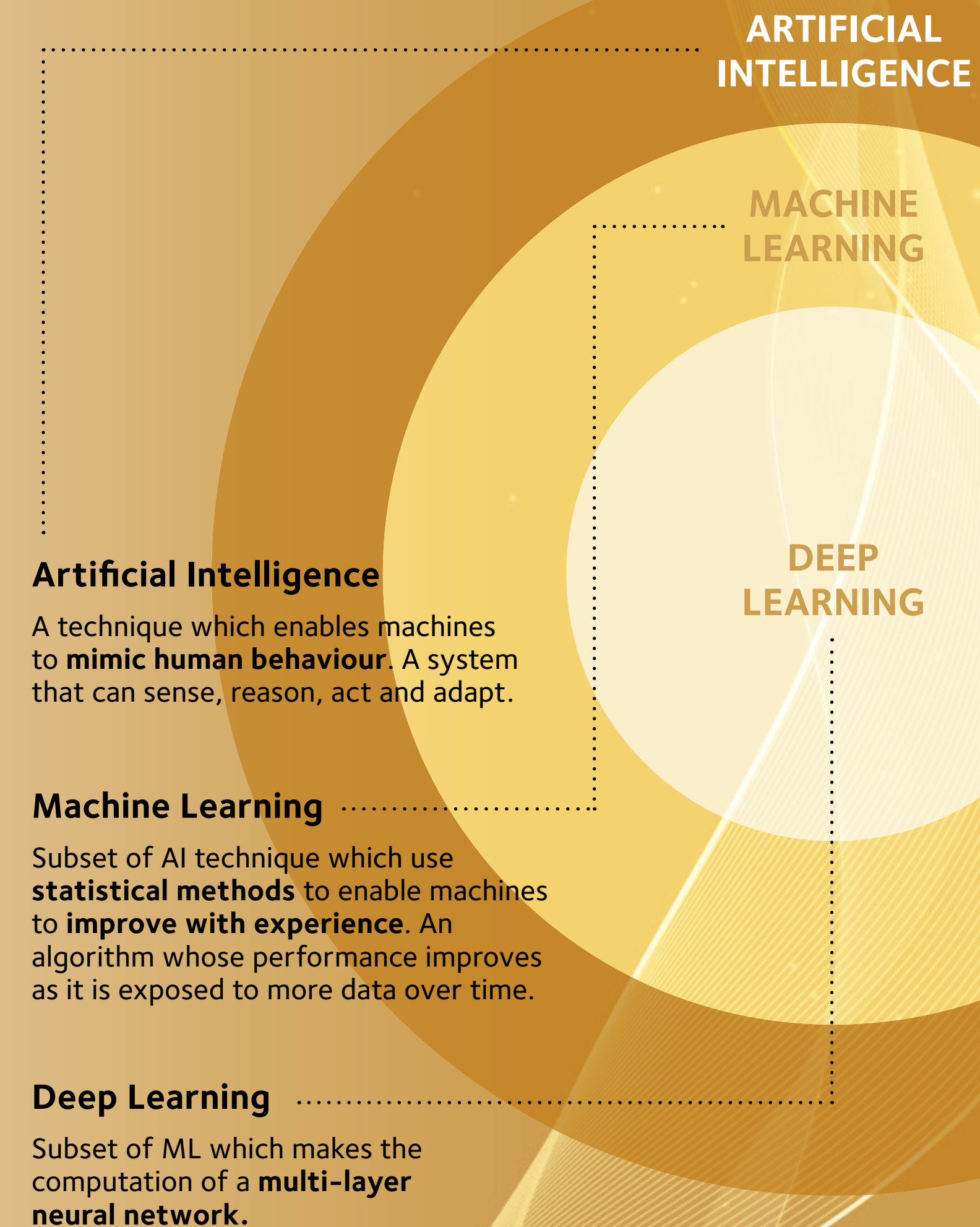Each is used to solve different problems.

Both use **models** which are a set of instructions that tell the computer how to perform a task.

- There are many different types of models

- Models "learn" through **training data**

Generated via DALL-E 2
using this prompt:
"A pretty and exciting image about generative AI that can be used in a powerpoint slide about what is generative AI"

ARTIFICIAL INTELLIGENCE

MACHINE LEARNING

DEEP LEARNING

Artificial Intelligence

A technique which enables machines to **mimic human behaviour**. A system that can sense, reason, act and adapt.

Machine Learning

Subset of AI technique which use **statistical methods** to enable machines to **improve with experience**. An algorithm whose performance improves as it is exposed to more data over time.

Deep Learning

Subset of ML which makes the computation of a **multi-layer neural network.**

Predictive "AI"

- Subset of Machine Learning and has been around for many years

- Focuses on making accurate predictions about what is likely to happen in the future by learning from historical data to identify patterns

- Training predictive "AI" models requires supervised learning (in general)

  - Human gives inputs and outputs and guides the learning process of the model

  - Enormous amount (millions of training examples) to surpass human performance (unlike humans who can learn from a very small amount of examples)

- Examples: predict customer behavior, financial trends or the likelihood of disease
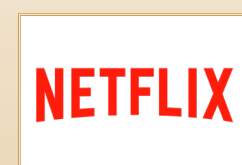
  - Netflix recommendation engine

  - Facebook – Tag Friends in Photo
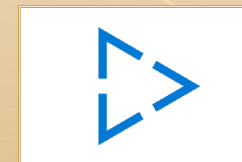
  - Microsoft Video Indexer - object detection, celebrity indexing

  - Data analytics

Generative "AI" aka GAI

- Subset of Deep Learning and has only recently become usable

- Focuses on creating new content by learning from existing data to identify patterns and generate new content that is similar to the data it has seen

- Training generative "AI" models uses unsupervised learning (in general)

  - Model is not given any labeled input or instructions – instead, it learns from the data by identifying patterns and relationships

  - Still requires an enormous amount of training data in order to identify patterns and produce high-quality results (although there are ways to use limited training data)

- Examples: image and text generation from text prompts

  - Image: Generative Adversarial Network (GANs), Diffusion

  - Text: Large Language Model (LLM), Generative Pre-Trained Transformer (GPT)

  - ChatGPT – *https://chat.openai.com/auth/login*

  - Bard – *https://bard.google.com/*
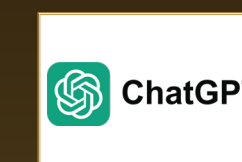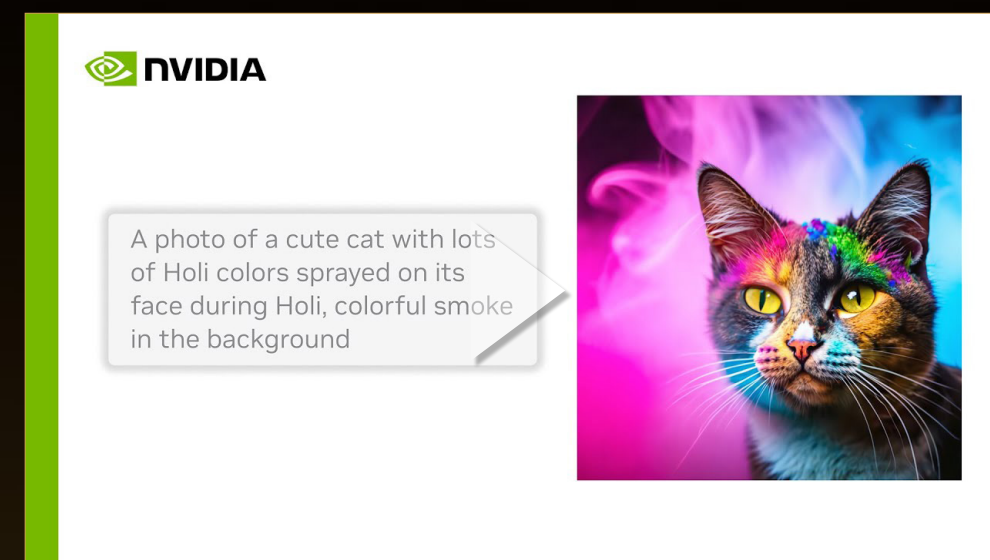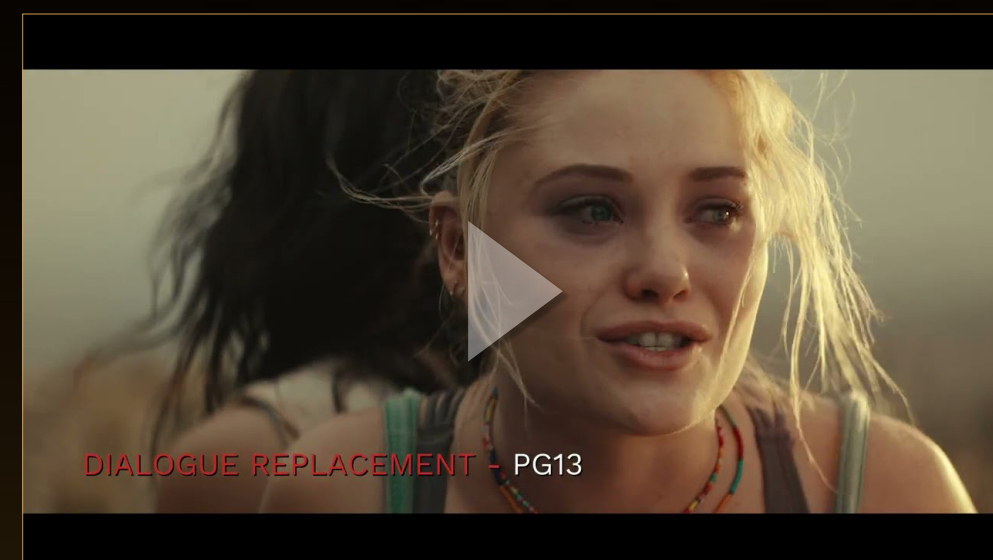
For more detailed information on this, please contact S&TPG

Generative "AI" Examples / Links:

This presentation is for educational purposes only. Opinions or points of view expressed in the following videos represent the view of the author, and does not necessarily represent the official position or policies of the Television Academy.
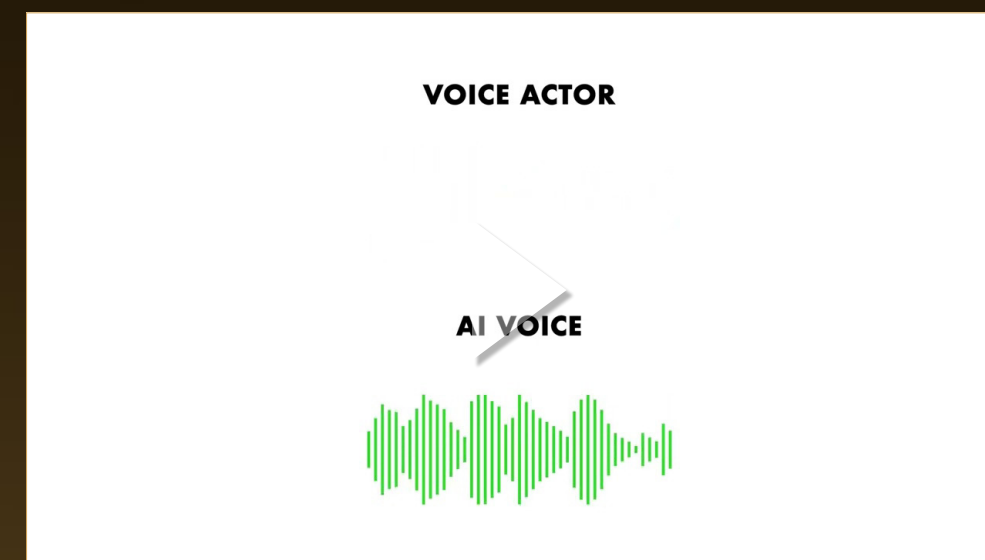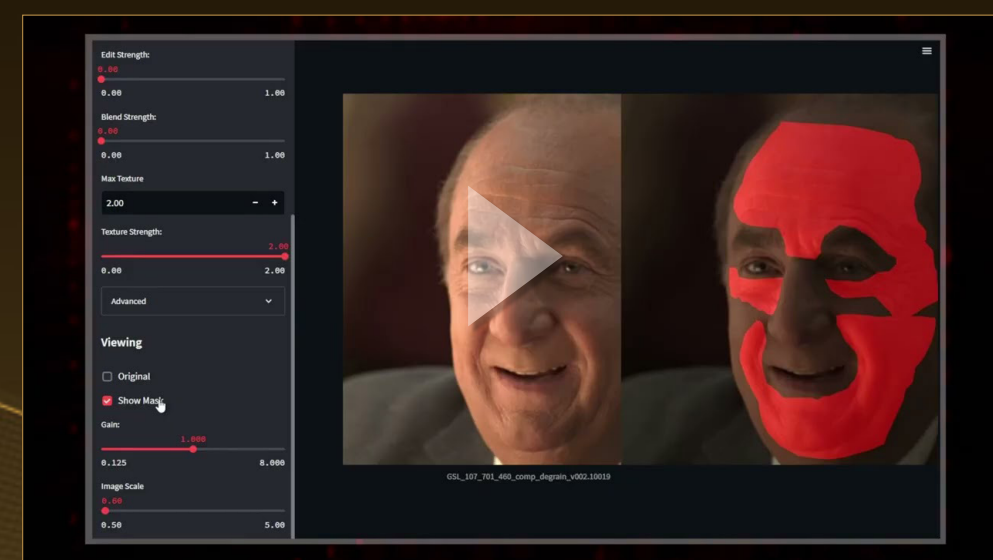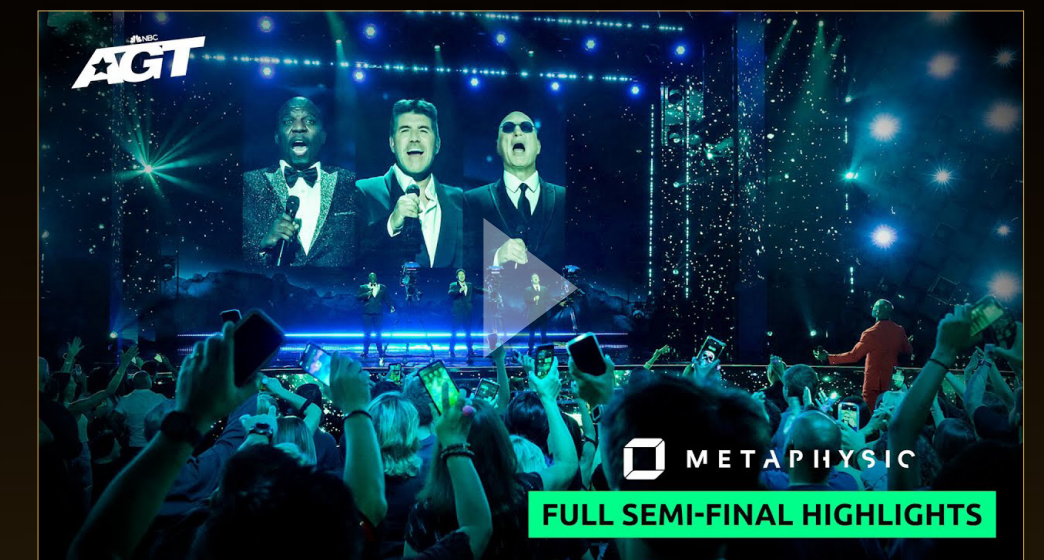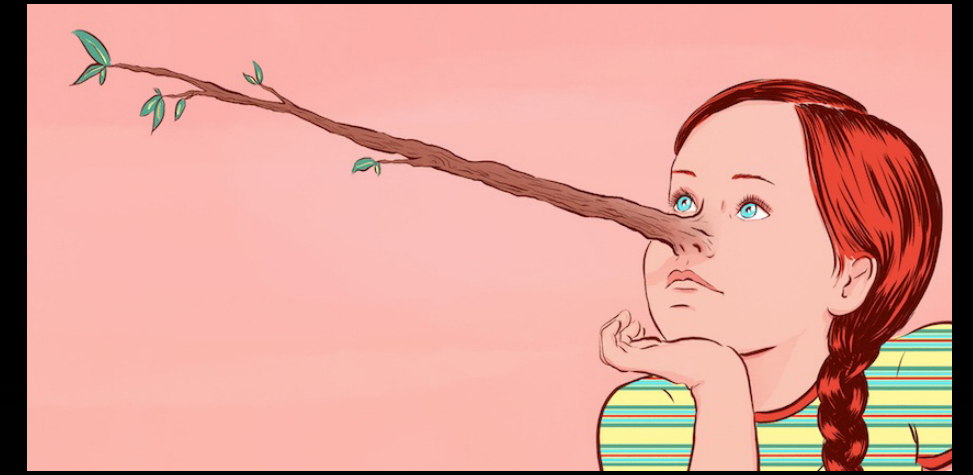
Technical Limitations & Training Data

- It can confidently lie (based on unreliable facts)

- It can lack artistic precision

- Cloud-based (security concern of our own data)

- Unclear cost models – can we scale in production?

"painter drawing dog" — Dall-E 2

Machines Must Be Trained

— Like humans, machines have to learn about the topic they specialize in

— ChatGPT is trained on everything publicly available from the Internet

　— This can cause bias in what it learns

　— "Prompt engineering" can help teach the machine to unlearn a bias

— Companies developing AI are taking note of training data sources

— For example – Adobe Firefly was trained on "ethically sourced" training data

　— Meaning open source, non-copyrighted material

　— Built out a bias team to eliminate bias through prompt engineering

— Companies could train on a private set of training data and monitor results

Outputs of Generative AI Models and Disclosures

- How do the outputs of GAI affect the creative community?

- Is GAI being used as a tool to increase productivity or is it being used to replace certain jobs?

- **Pre-Production**

  — writers are concerned that their jobs will be focused on rewrites and polishes of GAI generated scripts resulting in less pay

  — writers concerned that their existing copyrighted scripts will be used to teach GAI to infringe their copyrights in their outputs

  — This can cause bias in what it learns

- **Production**

  — Actors are concerned about the use of their likeness "in all media" "in perpetuity"

- **Post-Production**

  — Editors can use GAI to assist with frame-by-frame edits and other time consuming detailed tasks

  — Special effects- CGI rendering uses GAI for efficiencies

- **Disclosures**

  — Who needs to know that AI was used? When do they need to know? How do we let them know?

https://scet.berkeley.edu/ethical-ai/
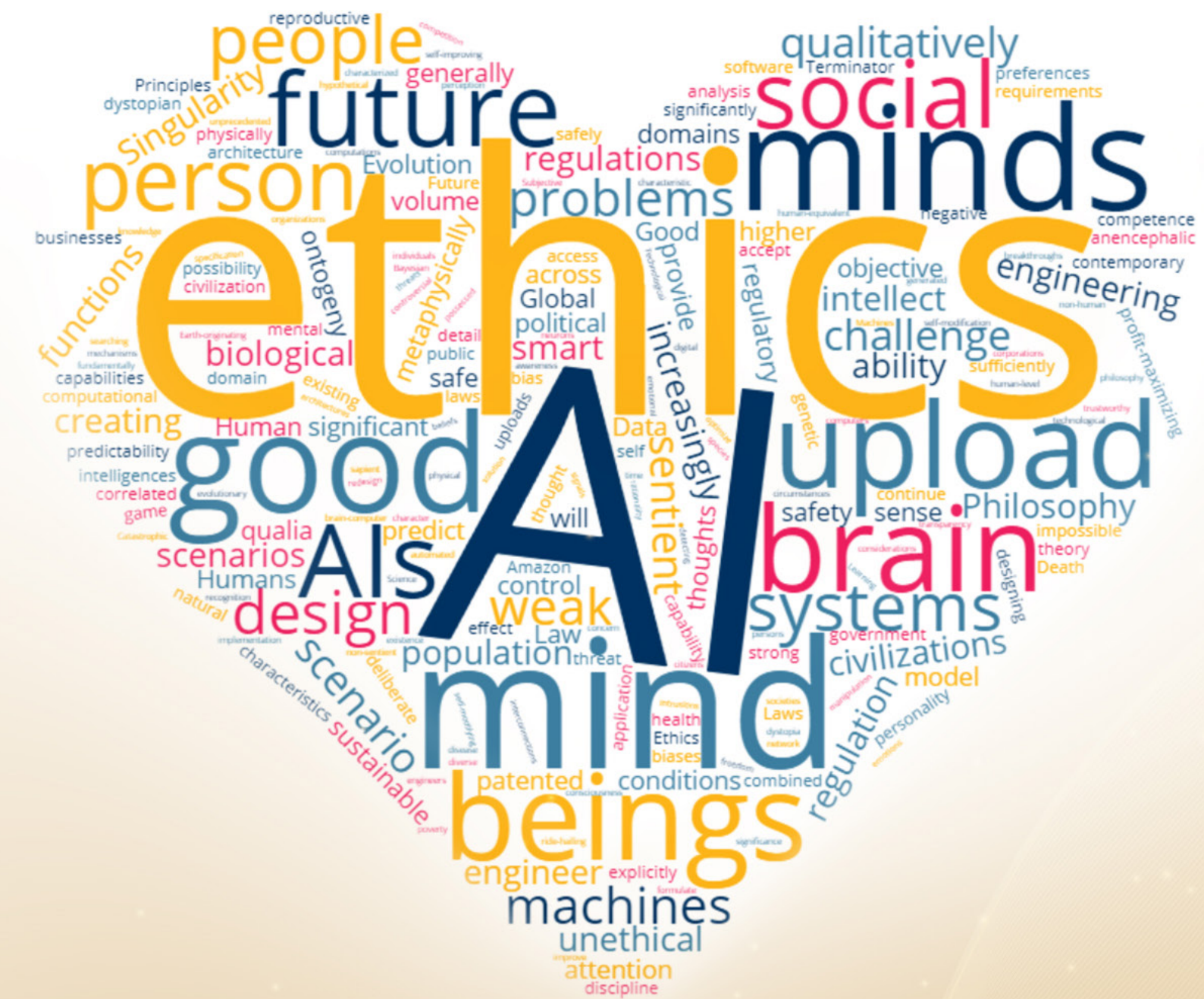
AI & Ethics, CONT'D

- It is important that the set of rules governing AI is consistent with the moral principles of the industry in which AI is being used:
  - all stakeholders are aware of the potential AI systems have to embed bias and threaten human rights.

- In the context of television, there is concern that copyright owners' rights are being infringed by being used to train data sets for generative AI in addition to the outputs of generative AI infringing upon those same rights to the extent that such outputs could replace human creativity as well as humans themselves based upon permissions to capture and use actors' likenesses in perpetuity.

- Also, to the extent that AI provides efficiencies, this could lead to knowledge and experience gaps in the talent pools.

- Also importantly, the question of required disclosures is of concern so that audiences can confidently discern the difference between fiction and non-fiction and educate and conduct themselves accordingly.
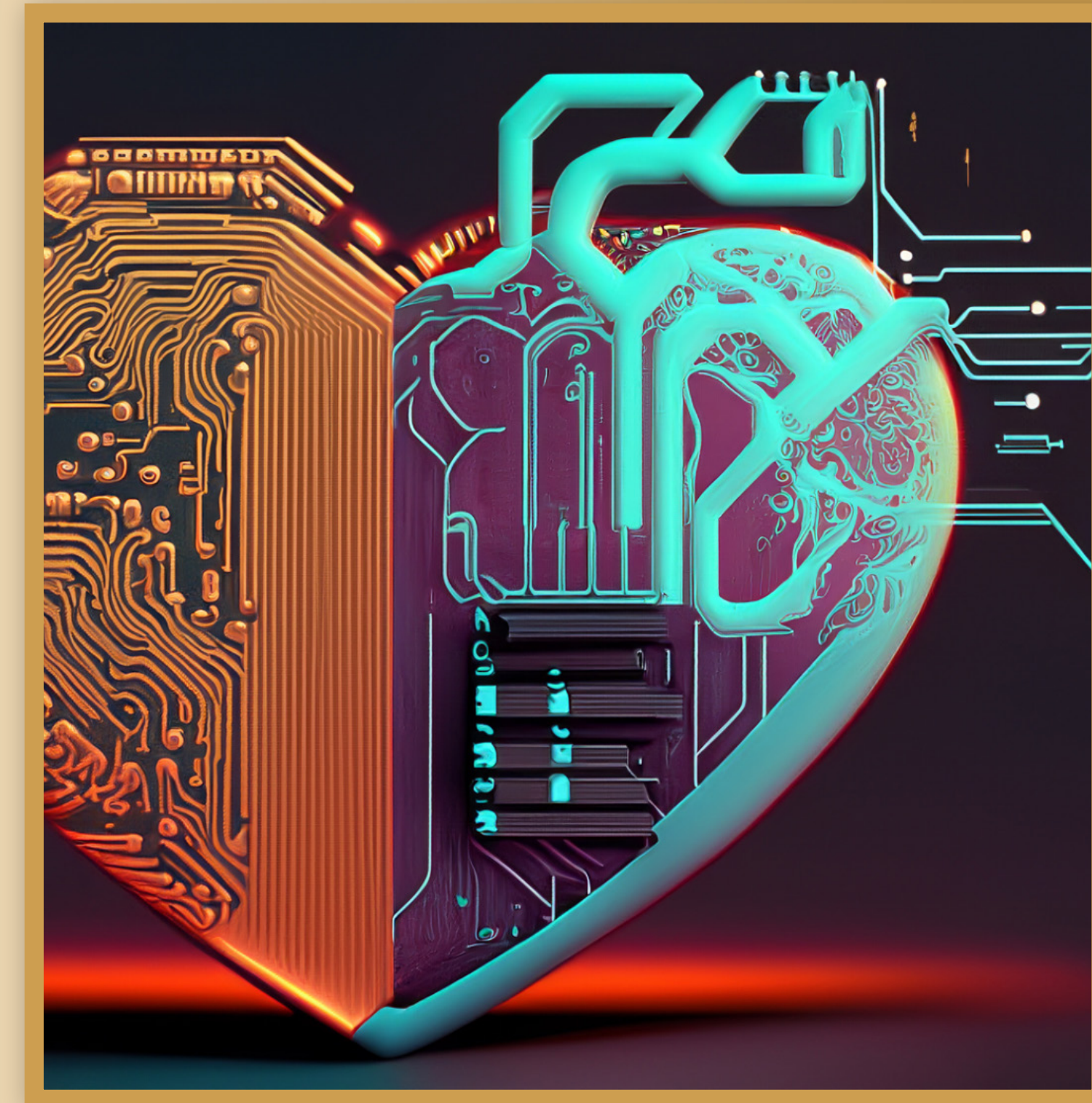
Industry forecast: 26 % of Entertainment Industry **exposed to AI replacement**

Exhibit 5: One-Fourth of Current Work Tasks Could Be Automated by AI in the US and Europe
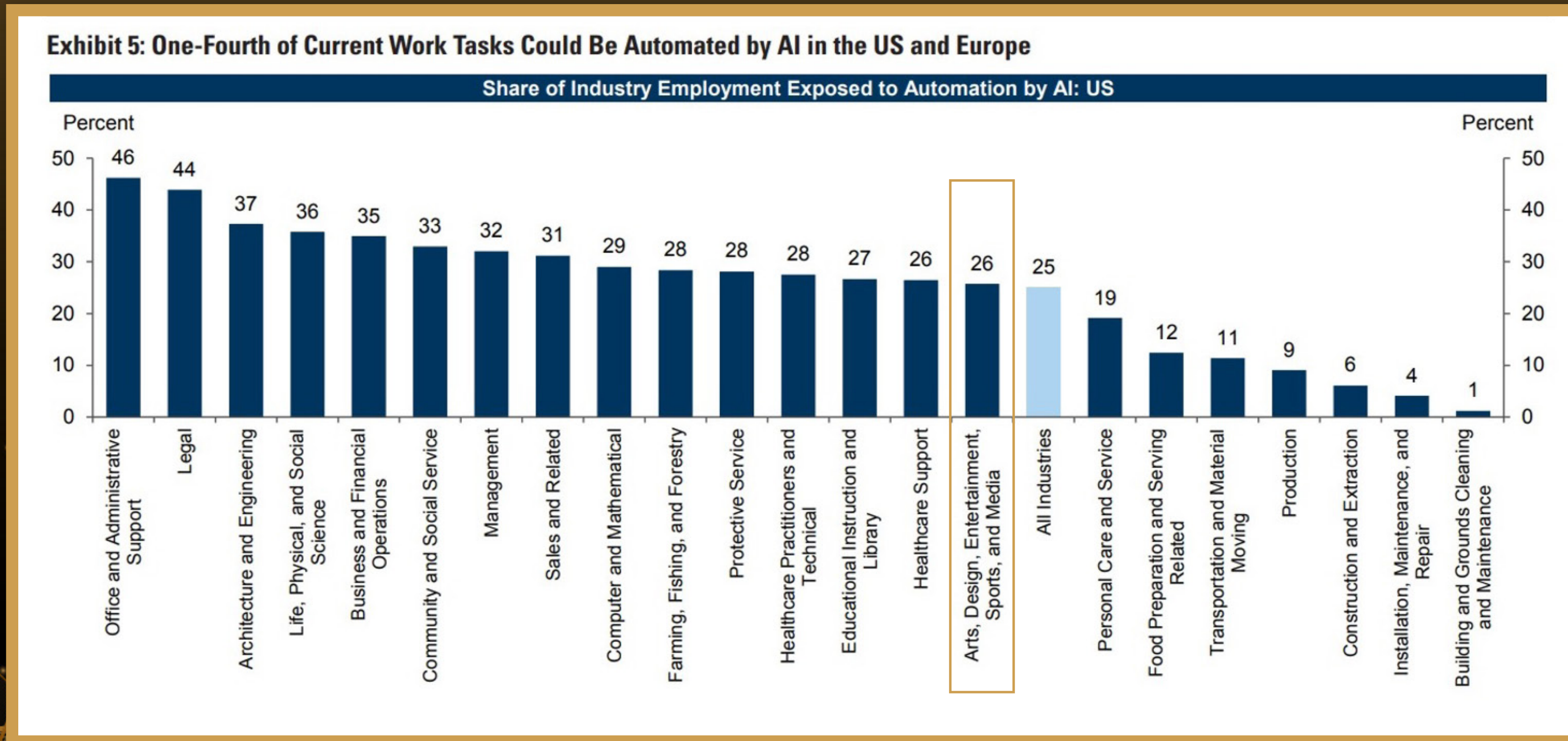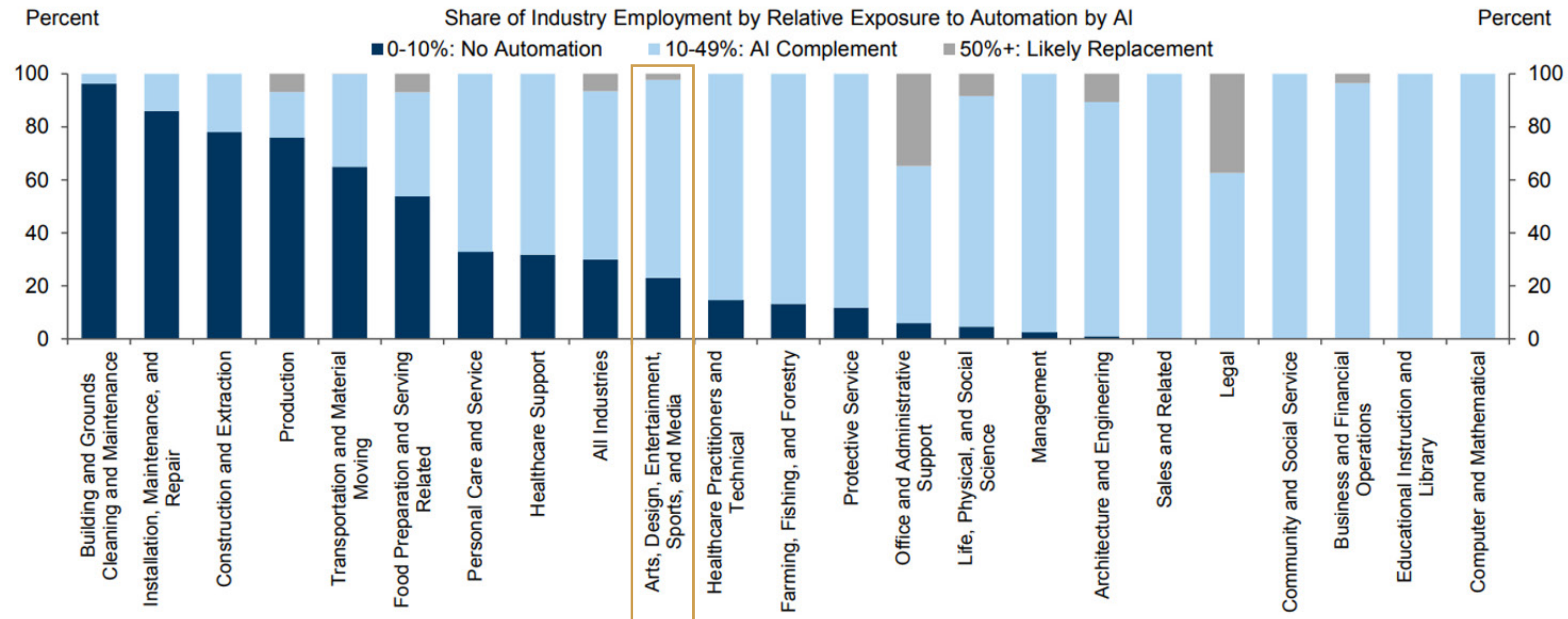
Source: Goldman Sachs Global Investment Research – March 26, 2023

Industry Impact

Net is some replacement, but more as a complement with increased productivity

Exhibit 8: Replacement in Legal and Administrative Fields, Little Effect in Manual and Outdoor Jobs, and Productivity-Enhancement Everywhere Else

AI and Copyright

- Copyright is a bundle of rights that gives a copyright owner the exclusive right to use the work: reproduce, display, distribute, perform, and create works based on or that are derivative of that work.

- Copyright is formed automatically once the original work of authorship is fixed in a tangible way but to have the ability to sue for damages for copyright infringement in federal court you need to register with the Library of Congress.

- Current US Copyright law has consistently found that non-humans cannot be creators of copyright:

  — recently the copyright application for the graphic novel Zarya of the Dawn was partially rejected because a generative AI app had been used to 'create' certain images in the novel. The text was copyrighted but not the images.

- In addition to issuing guidance on copyright and AI, the copyright office has extended its deadline for comments on an official public inquiry into AI to October 30, 2023.

https://copyright.gov/ai/

Latest Copyright News

February 2023, the Library of Congress issued its decision on "_Zarya of the Dawn_".
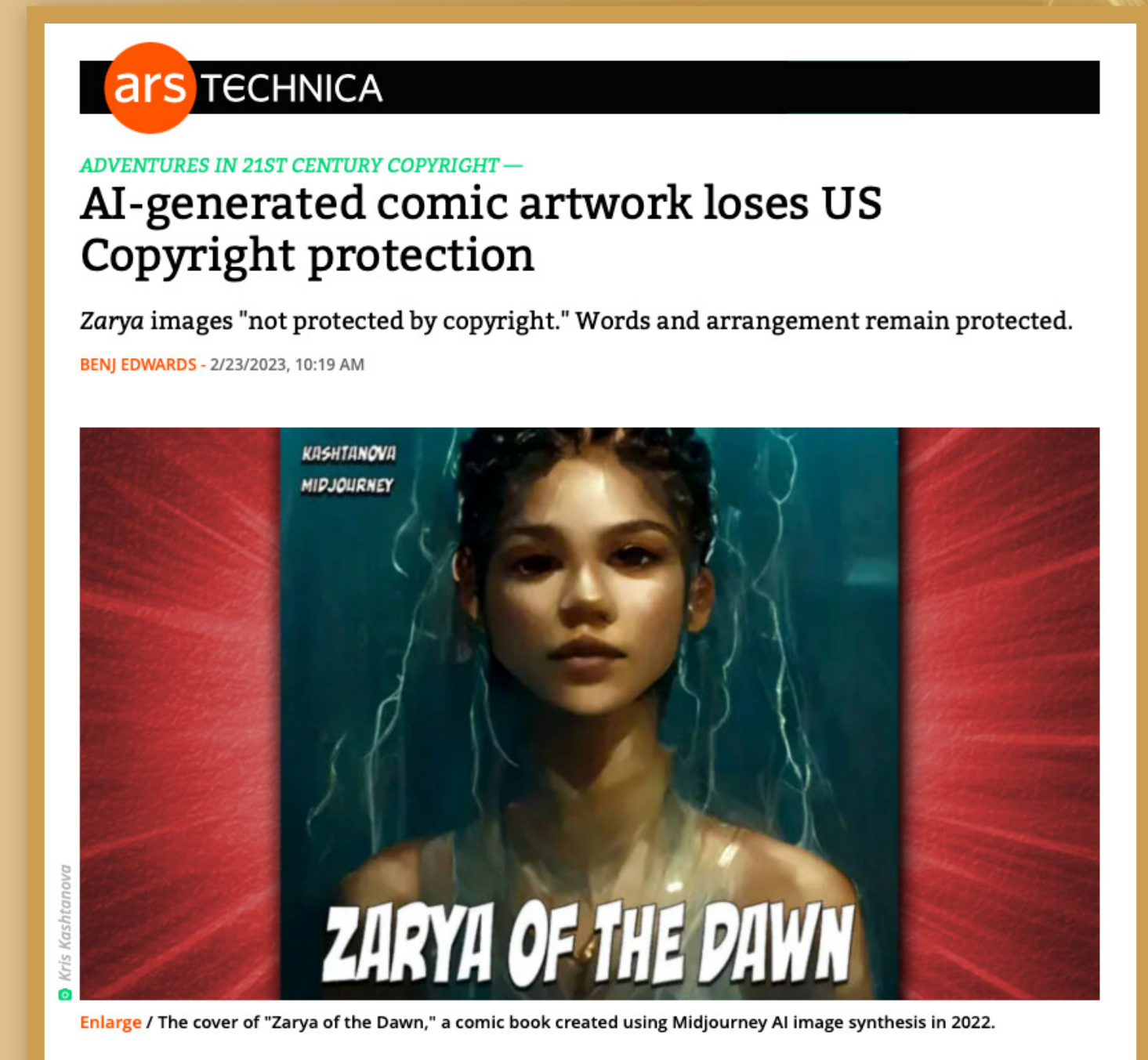
Conclusion: a graphic novel containing human-authored text combined with images generated by Midjourney constituted a copyrightable work but the AI generated images could not be protected by copyright

June 2023, the Library of Congress issued a _registration guidance policy paper for works containing AI generated material._

CONCLUSION:

Only humans can be authors – Applicants should not list an AI technology or the company that provided it as an author or co-author simply because they used it when creating their work.

1. AI generated works must be disclosed in the registration application

2. AI generated content within a work that is more than 'de minimis' should be excluded from the claim, specifically in the Limitation of Claim section in the Other field under the Material Excluded heading

   a. When an AI technology determines the expressive elements of its output, the generated material is not the product of human authorship

   b. In each case, what matters is the extent to which the human had creative control over the work's expression and "actually formed" the traditional elements of authorship

ars TECHNICA

ADVENTURES IN 21ST CENTURY COPYRIGHT —

AI-generated comic artwork loses US Copyright protection

Zarya images "not protected by copyright." Words and arrangement remain protected.

BENJ EDWARDS - 2/23/2023, 10:19 AM

Enlarge / The cover of "Zarya of the Dawn," a comic book created using Midjourney AI image synthesis in 2022.

Television Academy

Los Angeles Times

Directors Guild reaches deal on a new contract with the studios

FAST COMPANY

PREMIUM   CO.DESIGN   TECH   WORK LIFE   NEWS   IMPACT   PODCASTS   VIDEO   INN

06-08-23

Adobe is so confident its Firefly generative AI won't breach copyright that it'll cover your legal bills

HOME / FEATURES / PODCAST

DEADLINE

'Secret Invasion' Opening Credits Generated By AI, Prompting Backlash From Audiences

Sony Movie Chief Says 'A.I. Is Scary as Sh*t' but Won't Replace Human Writers

In an exclusive interview for IndieWire's Screen Talk podcast, Sony Pic
CEO Tom Rothman also addressed the theatrical
BY ERIC KOHN, ANNE THOMP
JUNE 21

Film   TV   What To Watch

Jun 12, 2023

HOME > BIZ > GLOBAL

AI Debate Is 'Not Our Biggest Issue — I Would Residuals': Writers Strike Takes Spotlight at BANFF

AI Leaders Urge Labs to Halt Training Models More Powerful Than ChatGPT-4

■ Over 1,100 industry leaders, experts call for six-month pause
■ Open letter warns of 'out-of-control race' to develop AI

NEWSLETTERS

The Grammys Just Took the Hardest A.I. Stance in All of Entertainment

Let Recording Academy President and CEO Harvey Mason Jr. explain, as he did to IndieWire.
BY BRIAN WELK
JUNE 22, 2023 2:50 PM

Paul McCartney Says A.I. Help Complete 'Last' Beatles Song

The song was made using a demo with John Lennon's
will be released later this year, McCartney said.

IPWatch

HOME > NEWS > COPYRIGHT

U.S. Copyright Office Clarifies Limits of Copyright for AI-Generated Works

Mixed Opinions

AI is an existential threat ← → **AI needs regulation** ← → **AI will save the world**

Exclusive: 42% of CEOs say AI could destroy humanity in five to ten years
CNN BUSINESS | Markets | Tech | Media | Creators | Videos

FINANCIAL TIMES
COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

Opinion **Artificial intelligence**

Google CEO: Building AI responsibly is the only race that really matters
Fulfilling the technology's potential is not something that one company can do alone

andreessen. horowitz — It's time to build — Portfolio
Why AI Will Save the World

PARTNERSHIP ON AI

Partnership on AI's (PAI) Responsible Practices for Synthetic Media is a framework on how to responsibly develop, create, and share synthetic media: the audiovisual content often generated or modified by AI.

FRAMEWORK SUPPORTERS

Adobe · BBC R&D · bumble · CBC Radio-Canada · D-ID · Meta · Microsoft · OpenAI · reSpeecher · synthesia · TikTok · WITNESS SEE IT FILM IT CHANGE IT

The AI community building the future.
Build, train and deploy state of the art models powered by the reference open source in machine learning.

Hugging Face

Allen Institute for AI Non-Profit · 193 models	**Meta AI** Company · 700 models	**Amazon Web Services** Company · 2 models	**Google** Company · 593 models
Intel Company · 131 models	**SpeechBrain** Non-Profit · 82 models	**Microsoft** Company · 257 models	**Grammarly** Company · 6 models

Key Takeaways

- Fear of new technology is **normal**, but we need to adapt in order to contribute to its development and use

- Think of "GAI" as a **tool**, not an entity

- "GAI" is a tool, and we need to **learn** how to wield the tools to help us

- **WE DECIDE** how we use "GAI" – Human/Computer Interaction is Key

- "GAI" can **assist** with manual, **labor-intensive tasks** to enhance the creative process

- AI and ML are evolving rapidly, so it can be hard to keep up

- We will learn more in the coming months as the envelope continues being pushed to see what is possible

Concerns in Generative AI

- Authorship rights

- Media disinformation (disinformation slowing the positive)

- Training Models

- Protection of Copyright & Intellectual Property

- Tailoring Use in production

- Liability

- Loss of work / job displacement / job disruption

- GAI interfering with the creative process

- Work created by GAI distinguished from work not created by GAI

- Lack of transparency in the use of GAI tools

- Data privacy

- Contractual agreements on GAI use between various stakeholders (Guild, non-guild) Reinforcement learning

- Cost

- Ethical use of GAI
  - Lack of regulation; or ethical guardrails
  - Plagiarism
  - Historical procedure
  - Copyright (Humans only!)

- Creative vs User

- Assisting creatives

  — enabling more time for more iterations; enabling time for more creativity; enabling new forms of creativity

  — Helping creatives generate storyboards rapidly for previsualization, reducing actual on-set shooting times.

  — Completing last scenes/shots when a performer/creative is unexpectedly unavailable

- Correcting audio

  — minor dialogue issues without having to reshoot

  — remove noise, reverb, and other audio interference

- Use of AI as a smart assistant

  — Helping to automate non-creative/mundane tasks
  — Redundancy tasks
  — Streamline (VFX, color, sound effects) ; clear succinct visual materials

- Efficiency

  — To be used as a beneficial tool that aids, enhances and makes complex workflows of television efficient
  — Quality control

- Television Academy as a resource for GAI

  — Information to Members
  — How to use GAI as Tools (Education & Programming)

Television Academy as a resource for GAI:
Education, Programming, and Information to Members

Ad Hoc Groups

- Generative AI Impact on Emmy Rules

- All Academy Summit

- Communication with other organizations

- Information Center

- Workshops on Specific Tools

Questions: AI Task Force (AITF)

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