

ARTIFICIAL INTELLIGENCE AND COPYRIGHT LAW

A GLOBAL OUTLOOK

Dr. Péter Mezei, Professor of Law

University of Szeged, Faculty of Law and Political Sciences (Hungary)

Adjunct Professor (dosentti), University of Turku (Finland)

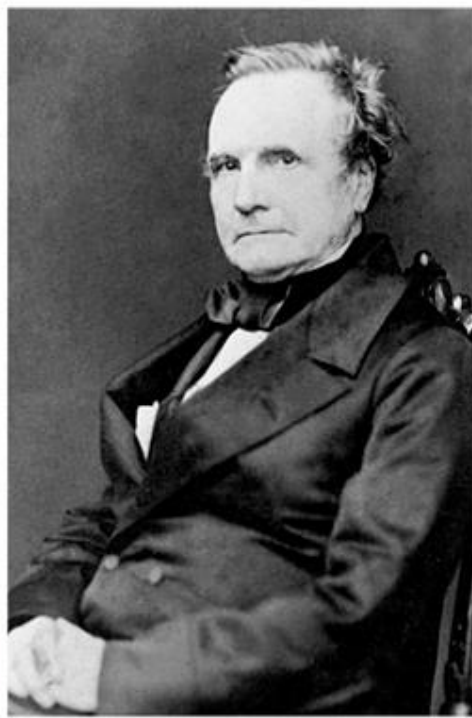
Professor invité, Université Jean Moulin Lyon III (France)

Chief researcher, Vytautas Magnus University (Lithuania)

Member of the European Copyright Society

Member of the Hungarian Copyright Expert Board

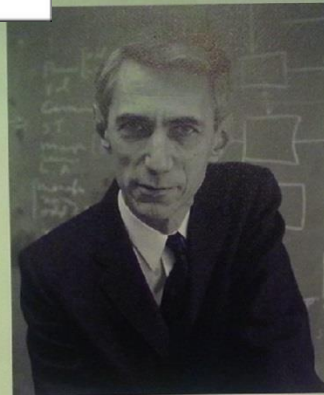
mezei.peter@szte.hu



AI & ©

From Ada Lovelace and
Charles Babbage...

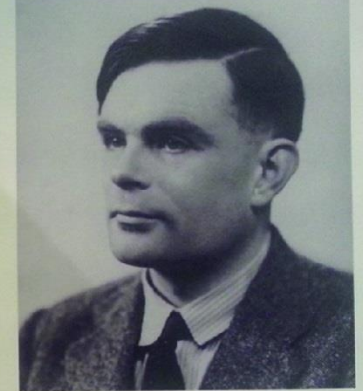
To Claude Shannon and
Alan Turing...



Claude Shannon
1916–2001

Claude Shannon was a mathematician and electrical engineer. Whilst working at Bell Laboratories he discussed artificial intelligence and the far-reaching possibilities of digital computers with Alan Turing. For the first time, Shannon gave 'information' a mathematical value. He inspired a new academic field, information theory, which underpinned developments in modern communication.

Image: Todd L. Williams/Getty Images



Alan Turing
1912–1954

Alan Turing was a mathematician, philosopher and computing pioneer. With the outbreak of the Second World War, Turing became head of a code-breaking unit at Bletchley Park. He used his mathematical skill to design a series of electromechanical code-breaking machines. His work continued to provide a theoretical basis for post-war developments in computing.

Image: Science Museum/BNP



“Alexa, play
morning
playlist.”



AI IN THE CREATIVE INDUSTRIES

AI in movies



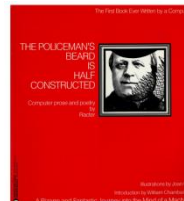
AI in the music industry



AI and arts



AI in literature



AI in the news industry



WHAT IS ARTIFICIAL INTELLIGENCE?

Software - hardware

Strong (full), general or weak (narrow) AI

System, entity, science

“A non-human system that possesses cognitive functions and skills such as learning and reasoning. A smart computer that can think and plan strategically. A science that can assist humanity to find answers to the big questions/themes we face.” (***Kop referring to Hawking***)

“AI is the simulation of human intelligence on a machine, so as to make the machine efficient to identify and use the right piece of ‘Knowledge’ at a given step of solving a problem.” (***Noto La Diega citing Konar***)

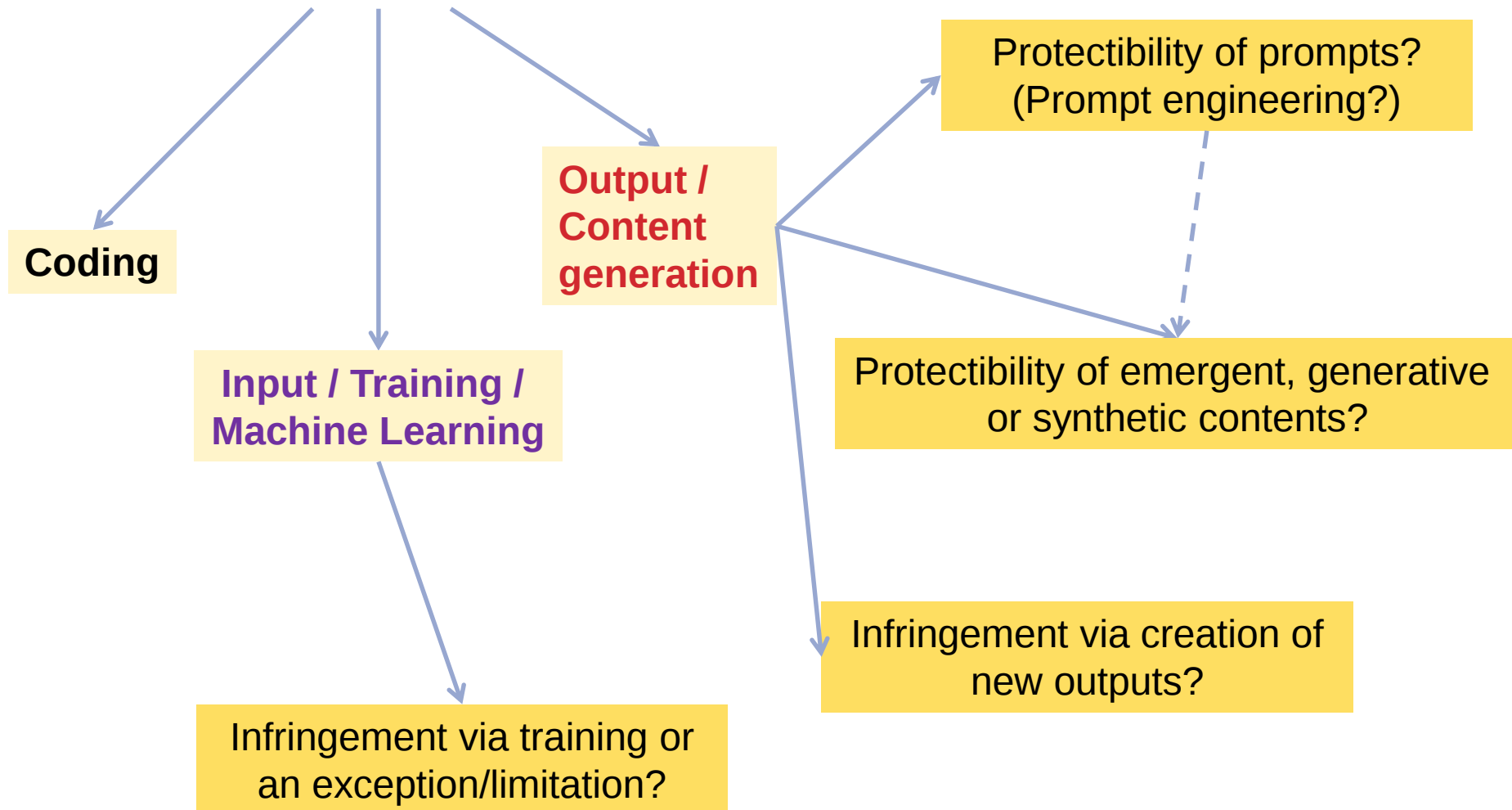
“AI is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment.” (***Nilsson***)

“AI systems will be designed to perform human-like cognitive tasks, steadily improving their performance by learning from experience or external data.” (***De Rouck***)

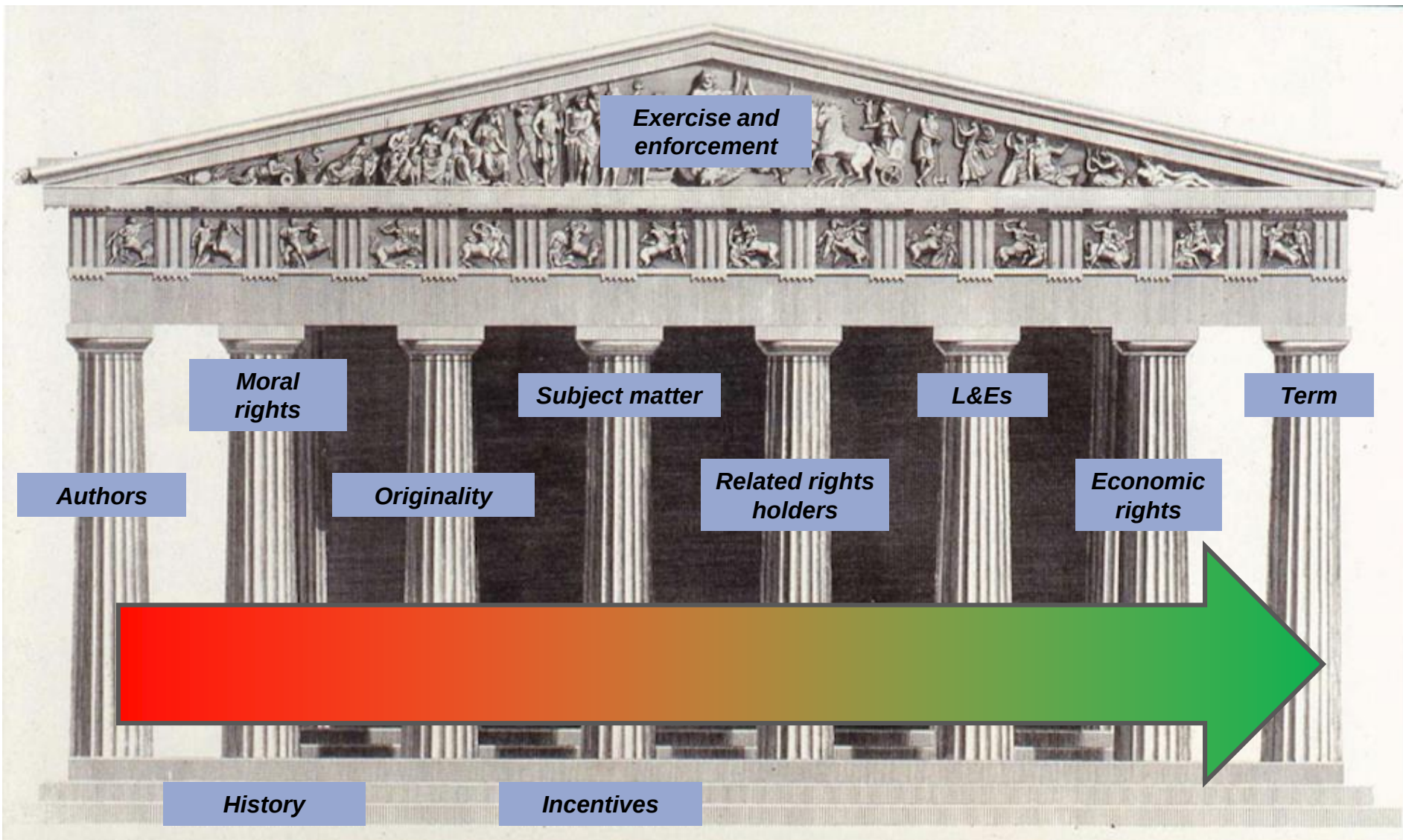
“Defining AI is not an easy task” (***Yanisky-Ravid***)

THE LIFE-CYCLE OF AI

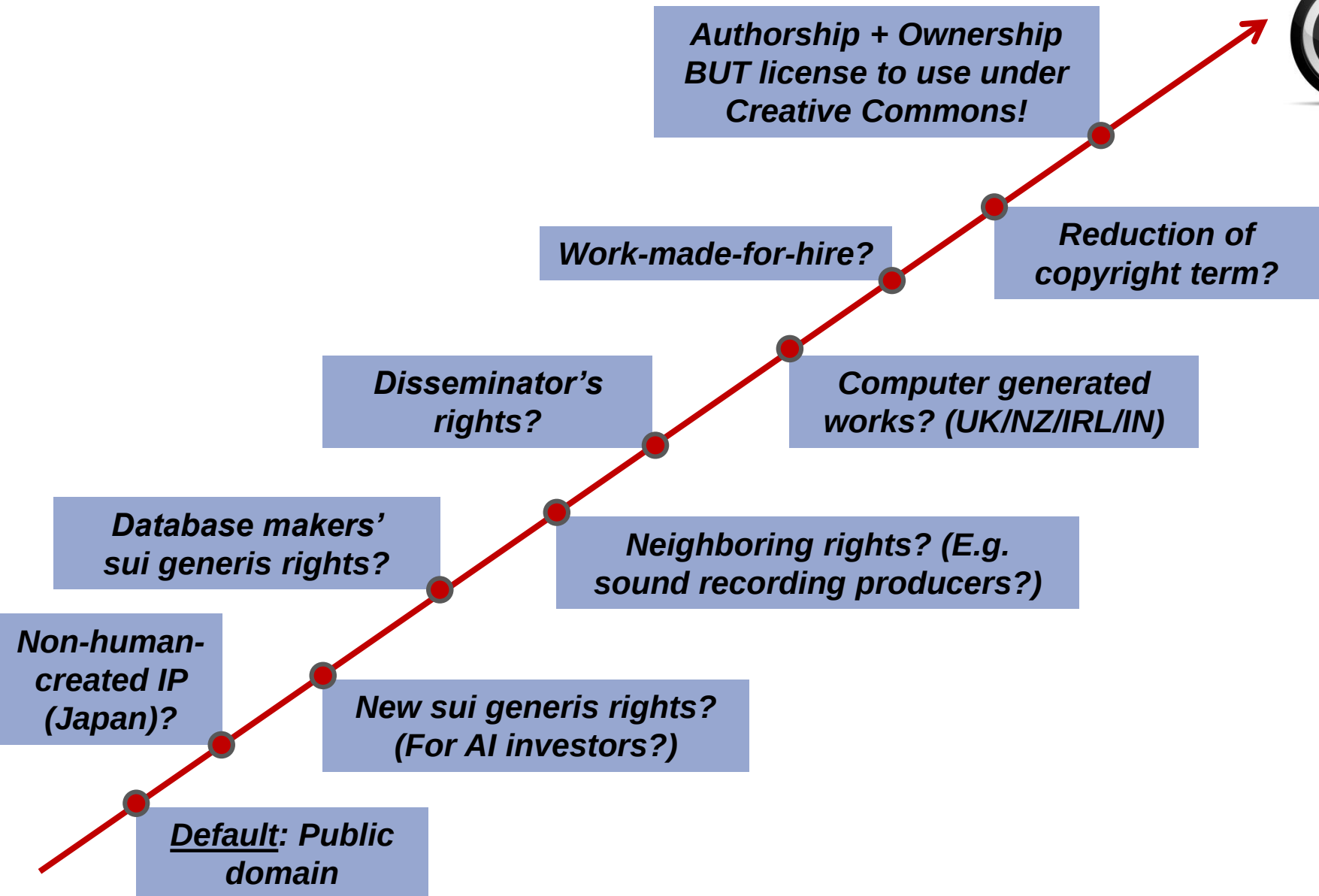
Three main cycles of AI's life:



THE RULING ON THE FIELD...



ALTERNATIVES TO PROTECTION BY COPYRIGHT?



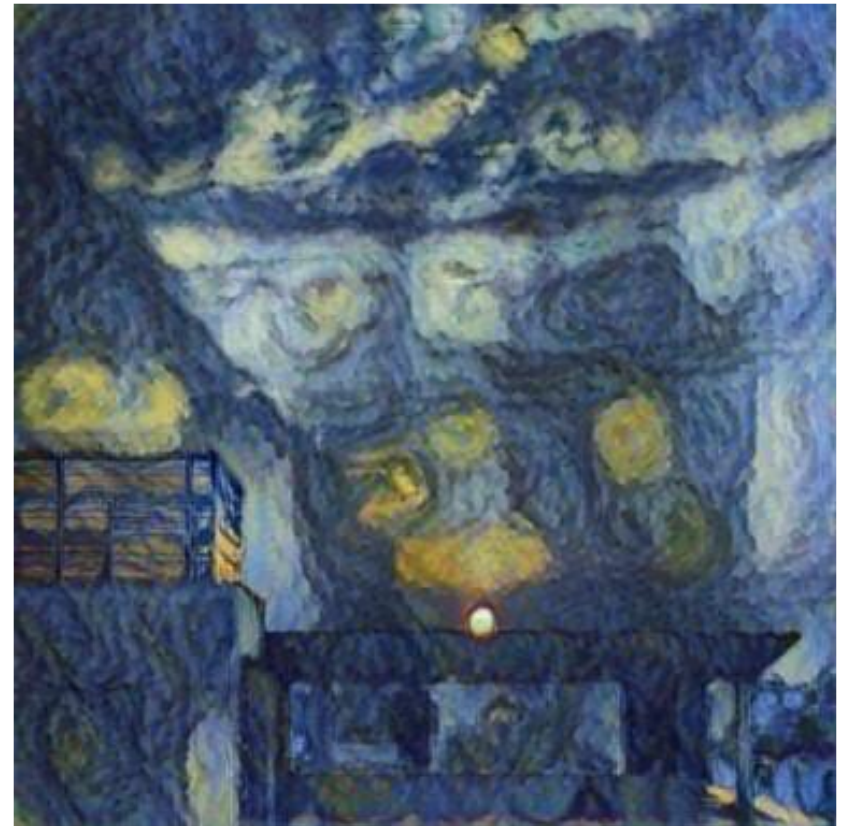
AUTHORSHIP UNDER COPYRIGHT LAW



Q: “Can an AI machine be an author under the copyright Act?”

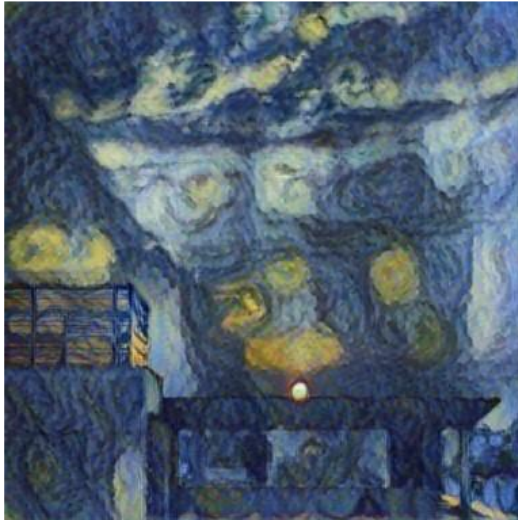
NO.

- The Indian Copyright Act only recognizes works created by **legal entities**
- Author = legal entity = human
- “Modicum of creativity test”
- The work must be “original”
- Regardless, **co-authorship of *Suryast* was initially given to RAGHAV AI Painting App**, but was **withdrawn** on November 25, 2021



Authors:
Raghav Artificial Intelligence Painting App
Ankit Sahni

AUTHORSHIP UNDER COPYRIGHT LAW



Authors:
Raghav Artificial Intelligence Painting App
Ankit Sahni

Canadian Copyright Database

► [Third-Party Information Liability Disclaimer](#)

The links on the text provide access to the help file.

<u>Title:</u>	SURYAST
<u>Type:</u>	Copyright
<u>Registration Number:</u>	1188619
<u>Status:</u>	Registered
<u>Registered:</u>	2021-12-01
<u>Category of Work:</u>	Artistic
<u>Date Published:</u>	2020-11-02
<u>Country Published:</u>	India

Interested Parties:

Owner:

<u>Person Name</u>	Ankit Sahni
<u>Original Address:</u>	31/42 Punjabi Bagh West New Delhi 110026 India
<u>Current Address:</u>	Same as original address.

Author:

<u>Person Name</u>	RAGHAV Artificial Intelligence Painting App
<u>Original Address:</u>	31/42 Punjabi Bagh West New Delhi 110026 India
<u>Current Address:</u>	Same as original address.

<u>Person Name</u>	Ankit Sahni
<u>Original Address:</u>	31/42 Punjabi Bagh West New Delhi 110026 India
<u>Current Address:</u>	Same as original address.

A RECENT ENTRANCE TO PARADISE



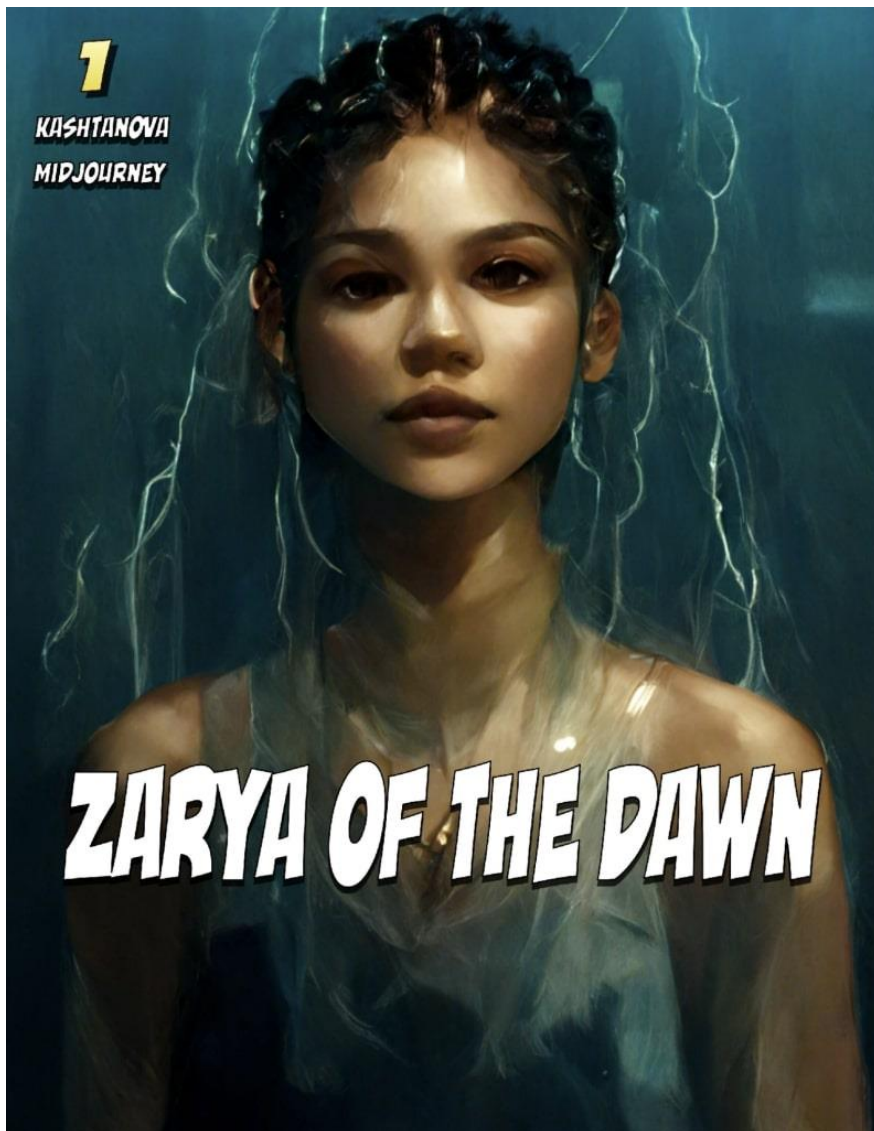
Procedural steps:



Creativity Machine's A Recent Entrance to Paradise

- ***Application for registration***: author: Creativity Machine; owner: Mr. Thaler; concept: work-made-for-hire (November 3, 2018) → **Rejection of registration** (August 12, 2019)
- ***Request of reconsideration*** (September 23, 2019) → **Refused** (March 30, 2020)
- ***Second request of reconsideration*** (May 27, 2020) → **Refused** (February 14, 2022)
 - *Human authorship needed*
 - *Machines have no right to transfer*
 - *WMFH doctrine is on ownership rather than on the existence of copyright protection!*
- ***Case 1:22-cv-01564-BAH*** (August 18, 2023): „defendants are correct that human authorship is an essential part of a valid copyright claim”.

ZARYA OF THE DAWN



Procedural steps:

- **Application for registration:**
author: Kris Kashtanova (+ Midjourney); owner: Ms. Kashtanova → Registration on September 15, 2022
- **Notice of possible cancellation**
on October 28, 2022 → human authorship needed + **disclosure of involvement of external sources / third parties in the creation of the work** → Ms. Kashtanova failed to identify she has created parts of the comic book with Midjourney.

USCO GUIDANCE



UNITED STATES COPYRIGHT OFFICE

Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence

PUBLISHED ON THURSDAY, MARCH 16, 2023

16190 FEDERAL REGISTER, VOL. 88, NO. 51

RULES AND REGULATIONS

37 CFR PART 202

II. The Human Authorship Requirement

In the Office's view, it is well-established that copyright can protect only material that is the product of human creativity. Most fundamentally, the term "author," which is used in both the Constitution and the Copyright Act, excludes non-humans. The Office's registration policies and regulations reflect statutory and judicial guidance on this issue.

THÉÂTRE D'OPÉRA SPATIAL



Procedural steps:

- ***Application for registration:***
author: Jason Allen (no disclosure of the use of Midjourney) → registration denied on *December 13, 2022*.
- ***Request to reconsider registration:*** USCO misapplied human authorship requirement + public policy favours registration? → denied on *June 6, 2023*.
- ***Second request to reconsider registration:*** USCO ignored essential human element (series of 600+ prompts) + fair use + value judgment on utility tools → denied on *September 5, 2023*.



USCO PRACTICE SINCE MARCH 16, 2023

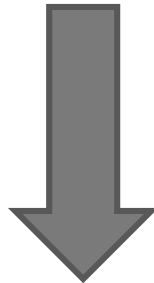


The Register of Copyrights of the United States of America

United States Copyright Office · 101 Independence Avenue SE · Washington, DC 20559-6000

February 23, 2024

*Update of the Register of
Copyright to Chairs and Ranking
Members of Senate and House
committees*



Since the Registration Guidance was issued, the Office's Registration Division has examined hundreds of works that incorporate AI-generated material and has issued registrations to well over 100 so far.¹⁰ Over the past year, the Office's Review Board (the body that issues final agency decisions on registration appeals) has twice upheld refusals to register works created using generative AI.¹¹ In one case, the applicant refused to disclaim

AUTHORSHIP UNDER COPYRIGHT LAW

č. j. 10 C 13/2023- 16



ČESKÁ REPUBLIKA

ROZSUDEK

JMÉNEM REPUBLIKY



AUTHORSHIP UNDER COPYRIGHT LAW



Nanshan District People's Court in Shenzhen
Tencent v. Shanghai Yinxun
No. (2019) Yue 0305 Min Chu No. 14010

Q: "Does China recognize AI as an author?"

NO.

- Due to human intervention, the **creator of the AI** 'Dreamwriter', i.e., Tencent, **is the author**
- Originality of work
- Granted copyright protection



AUTHORSHIP UNDER COPYRIGHT LAW



Beijing Internet Court
Lee v. Liu
(2023) Jing 0491 Min Chu No. 11279

Q: “Are choices made by individuals in the image generation process creative enough?” + TRANSPARENCY?

“[I]t is the **plaintiff that directly made relevant settings** for the AI model as needed and finally selected the image. That image was generated directly based on the plaintiff’s intellectual input and reflects the plaintiff’s personalized expression. **Therefore, the plaintiff is the author** of the image and enjoys the copyright in that image.

It needs to be clarified that, although this court determines that the plaintiff enjoys the copyright as the author, according to the principle of good faith and the need to protect the public’s right to know, **the plaintiff should clearly mark the AI technology or model he uses**. In this case, the plaintiff marked the image as an ‘AI illustration’, which is sufficient to inform the public that the content was generated by the plaintiff using AI technology. This court affirms that.”



PLATFORM LIABILITY?



Guangzhou Internet Court
Ultraman
(2024) Yue 0192 Min Chu No. 113

Q: “Are platforms liability for the use of their services by their clients (to create outputs that might infringe the copyright of third parties)?

- A generative AI service provider who ***failed to meet a duty of reasonable care*** and whose website allowed for generating pictures identical or similar to the copyrighted image is found liable for copyright infringement of the rights of reproduction, adaptation, and information network dissemination.



AN ARMADA OF PENDING CASES...



USA: e.g. Doe 1 v. Github (11/03/2022) → order granting motion to dismiss the majority of claims (22/01/2024); Andersen v. Stability AI (1/13/2023) → order granting motion to dismiss except unauthorized copying (30/10/2023); Tremblay v. OpenAI (28/06/2023); Silverman v. OpenAI (7/07/2023) → order granting motion to dismiss except direct copyright infringement (12/02/2024); Kadrey v. Meta Platforms (7/07/2023) → order granting motion to dismiss except direct copyright infringement (20/11/2023)

AN ARMADA OF PENDING CASES...



UK and Germany: on training GenAI.

Czech Republic:
on authorship related
to contents generated
with the help of ChatGPT.



ČESKÁ REPUBLIKA
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Germany, the Netherlands, Hungary: on TDM.

PRESS RELEASE / 21 JANUARY 2025

Fair remuneration demanded: GEMA files lawsuit against Suno Inc.



GEMA is taking legal action against Suno Inc., an American provider of AI-generated audio content. It is accusing the company of processing protected recordings of world-famous songs from GEMA's repertoire in the tool without paying remuneration. In numerous cases, the AI tool generated audio content that is confusingly similar to the original songs such as 'Forever Young', 'Daddy Cool', 'Mambo No. 5' or 'Cheri Cheri Lady'.

News Report Technology

May 03, 2023

German Stock Photographer Receives Penalty for Request to Remove Photos from Training Dataset

OUTPUT / INFRINGEMENT VIA CONTENT GENERATION?

Reproduction? Adaptation? That is the question...

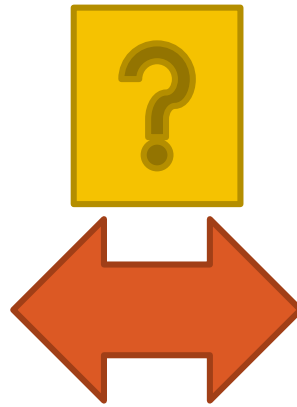
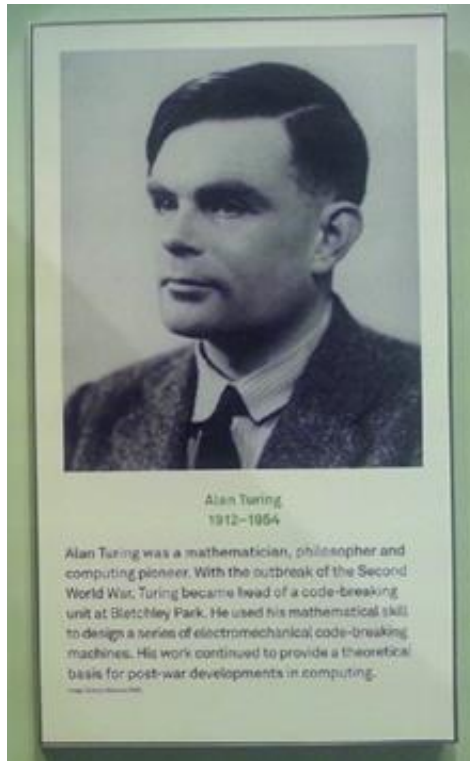
The plaintiffs are wrong to say that, because their books were duplicated in full as part of the LLaMA training process, they do not need to allege any similarity between LLaMA outputs and their books to maintain a claim based on derivative infringement. To prevail on a theory that LLaMA's outputs constitute derivative infringement, the plaintiffs would indeed need to allege and ultimately prove that the outputs "incorporate in some form a portion of" the plaintiffs' books. *Litchfield v. Spielberg*, 736 F.2d 1352, 1357 (9th Cir. 1984); *see also Andersen v.*

Stability AI Ltd., No. 23-CV-00201-WHO, 2023 WL 7132064, at *7-8 (N.D. Cal. Oct. 30, 2023)

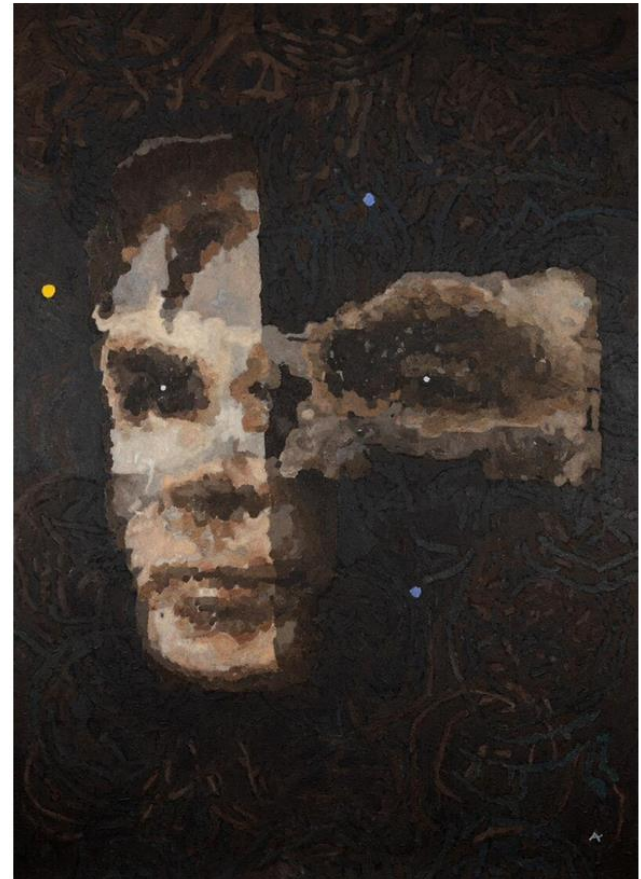
Kadrey v. Meta Platforms, order granting motion to dismiss, Case 23-cv-03417-VC (20 November 2023)

OUTPUT / INFRINGEMENT VIA CONTENT GENERATION?

Reproduction? Adaptation? That is the question...



Ai-DA: A.I.
God –
Portrait of
Alan Turing



INPUT / MACHINE LEARNING – A COPYRIGHT USE?

Uncertainties around machine learning – to copy or not to copy? That is the question...

14 2. Stability downloaded or otherwise acquired copies of billions of copyrighted
15 images without permission to create Stable Diffusion, including Plaintiffs'. These images are
16 defined below as "Training Images."

17 3. By training
18 to be stored at and incorporated
19 without the consent of the

20 4. When used
21 Training Images to produce
22 These "new" images are
23 particular images Stable I
24 merely a complex collage

13 12. Copilot is run entirely on Microsoft's Azure cloud-computing platform.
14 13. Copilot often simply reproduces code that can be traced back to open source
15 repositories or open-source licensees. Contrary to and in violation of the Licenses, code
16 reproduced by Copilot *never* includes attributions to the underlying authors.

17 14. GitHub and OpenAI have offered shifting accounts of the source and amount of
18 the code or other data used to train and operate Copilot. They have also offered shifting
19 justifications for why a commercial AI product like Copilot should be exempt from these license
20 requirements, often citing "fair use."

J. Doe 1 et al. v. GitHub Inc., et al., plaintiff's
complaint, Case No. 22-cv-06823-JST
(3 November, 2022)

Andersen et al. v. Stability AI et al., plaintiff's
complaint, Case 3:23-cv-00201 (13 January, 2023)

INPUT / MACHINE LEARNING – A COPYRIGHT USE?

Uncertainties around machine learning – to copy or not to copy? That is the question...

64. This commercial success is built in large part on OpenAI's large-scale copyright infringement. One of the central features driving the use and sales of ChatGPT and its associated products is the LLM's ability to produce natural language text in a variety of styles. To achieve this result, OpenAI made numerous reproductions of copyrighted works owned by The Times in the course of "training" the LLM.

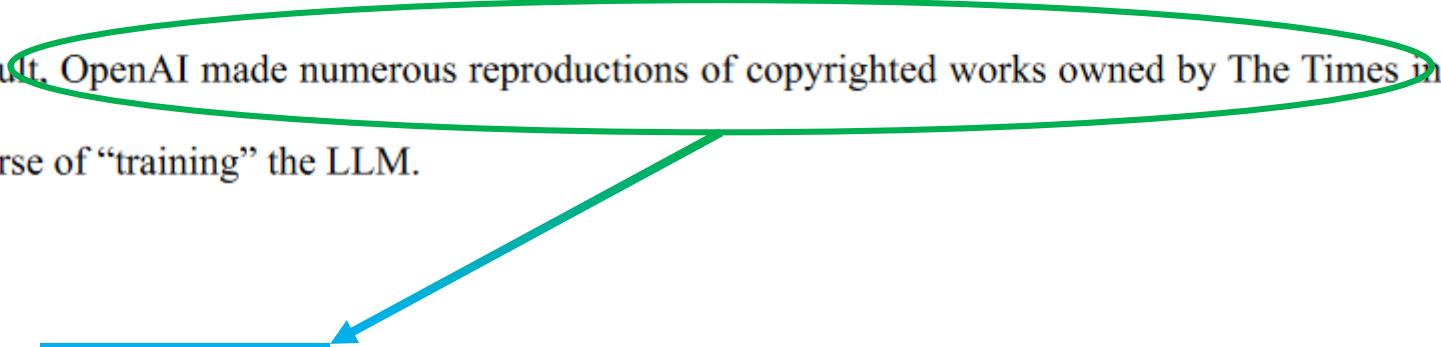


Exhibit J

The New York Times Co. v. Microsoft Corp.,
OpenAI, plaintiff's complaint, 1:23-cv-11195 (Dec.
27, 2023)

UMG Recordings, Inc., et al. v. Suno Inc., et al., plaintiff's complaint, 1:24-cv-11611 (June 24, 2024). Identical to this, see UMG Recordings, Inc., et al. v. Uncharted Labs, Inc., et al., plaintiff's complaint, 1:24-cv-11611 (June 24, 2024) §52 et seq.

INPUT / MACHINE LEARNING – A COPYRIGHT USE?

Various algorithms memorize various training data

- Ziegler (2021) & Ippolito et al. (2022) on computer codes; Somepalli et al. (2022) & Carlini et al. (2023) on text-to-image models; Chang et al. (2023) on literary works == **memorization exists, but its rate is low.**

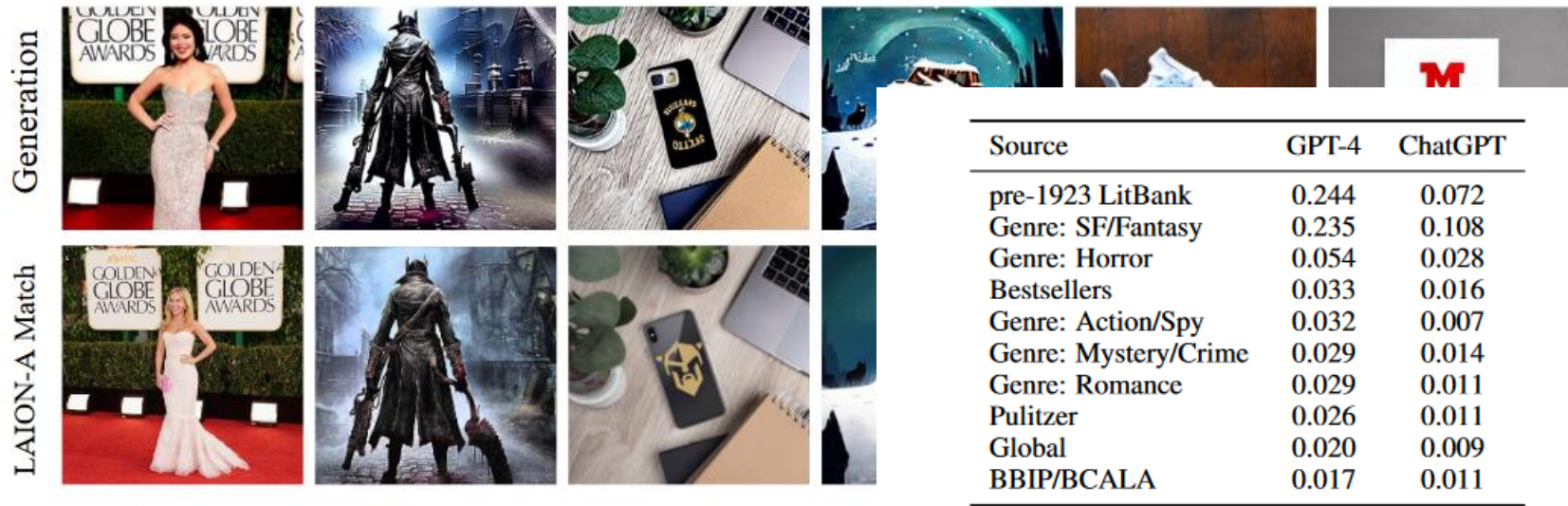


Figure 1. *Stable Diffusion* is capable of reproducing training data, creating in

Somepalli et al. (2022)

Table 2: Name cloze performance by book category.

Chang et al. (2023)

INPUT / MACHINE LEARNING – A COPYRIGHT USE?

Various algorithms memorize various training data

- Sag (2023) == “memorization is more likely if a text description is closely associated with a particular image over and over again; it is also more likely if the image is relatively simple or relates to a single subject”



INPUT / MACHINE LEARNING – ANY EXCEPTION FOR USERS?

Assume the presence of use – any exception at hand?

Jurisdiction matters (again)

- US: fair use (Google Books/scraping case law v. post-Warhol?)
- EU: closed list of E&Ls:
 - permissionless observing, study and testing [§5(3) Software D],
 - temporary acts of reproduction [§5(1) InfoSoc] &
 - commercial TDM [§4 CDSMD],
 - pastiche [§5(3)(k) InfoSoc + §17(7) CDSMD]?

AI ACT – AN EXTRA LAYER

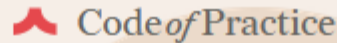
Article 53

Obligations for providers of general-purpose AI models

1. Providers of general-purpose AI models shall:
 - (c) put in place a policy to comply with Union law on copyright and related rights, and in particular to identify and comply with, including through state-of-the-art technologies, a reservation of rights expressed pursuant to Article 4(3) of Directive (EU) 2019/790;
 - (d) draw up and make publicly available a sufficiently detailed summary about the content used for training of the general-purpose AI model, according to a template provided by the AI Office.

+ **Transparency requirements** per §53(1)(a)-(b), except for FOSS based general-purpose AI models (see further recital 104 & 106);
+ **Codes of practice** until a standard is published per §53(4).

AI ACT – AN EXTRA LAYER



SUMMARY TRANSPARENCY COPYRIGHT SAFETY & SECURITY

🔗 Copyright Section

🔗 Commitment I.2. Copyright policy

In order to fulfil the obligation to put in place a policy to comply with Union law on copyright and related rights, and in particular to identify and comply with, including through state-of-the-art technologies, a reservation of rights expressed pursuant to [Article 4\(3\) Directive \(EU\) 2019/790](#) pursuant to Article 53(1), point (c) AI Act, Signatories commit to drawing up, keeping up-to-date, and implementing a copyright policy in accordance with Measure [I.2.1](#), as well as adopting Measures [I.2.2–I.2.6](#) for their general-purpose AI models placed on the EU market.

[Read commitment and measures](#)

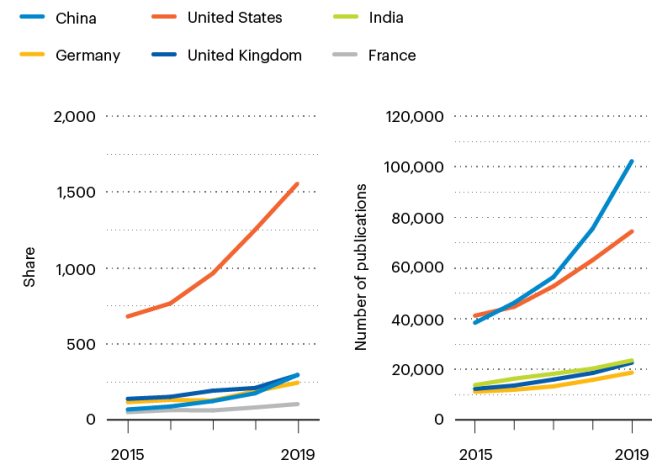
🔗 II. Commitments by Providers of General-Purpose AI Models with Systemic Risk

CONCLUSION: ON THE PROTECTABILITY OF AI-GENERATED OUTPUTS

- ***Lack or existence of formalities***
 - copyright v. patent law (different purposes of law AND of registration)
 - protection $\neq$ registration (but overlapping concepts)
 - formalities = formal and substantive requirements
 - concurring/conflicting national approaches
- ***Human or deemed authorship / inventorship?***
 - Policy rather than philosophy!
 - Is it really the machine that requests protection? Who are the key beneficiaries?
 - Transfer of rights in the lack of e-personality?
- **Global race for AI protection!**

STEEP COMPETITION

The five leading locations for AI-related output in the Nature Index (left) and Dimensions (right). In both databases, China achieved the fastest growth in output, followed by the UK in Dimensions, and the US in the Nature Index. India is the 3rd most productive location for AI research across all fields in the Dimensions database, but appears at 20th position for AI-related natural-sciences research in the Nature Index.





THANKS FOR YOUR ATTENTION!

mezei.peter@szte.hu
<http://ssrn.com/author=1697918>