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Responsible practices for responsible libraries: The role of libraries in a world of generative AI

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Responsible Practices for Responsible Libraries
The role of libraries in a world of generative AI

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Introduction

- Access to generative AI democratizes information and lowers the barriers to create and collaborate in the information landscape

- This presentation focuses on generative AI images

  - When teaching information literacy, we predominantly focus on written/textual information

  - With the new wave of generative AI technology, we need more focus on visual literacy as well

- Tools for Image Evaluation

- How to teach AI Literacy

Penetration rate of social media in Singapore (2022)

Penetration rate of top social networks in Singapore as of the 3rd quarter of 2022

Network	Share
WhatsApp	83.2%
Facebook	76.4%
Instagram	64.4%
Telegram	48.1%
Tiktok	45.8%
Facebook Messenger	45.3%
LinkedIn	37.9%
Twitter	32%
WeChat	25%
Pinterest	23.8%
Reddit	22%
Skype	19.8%
iMessage	19.7%
LINE	18.8%
Discord	13.8%

Sources
DataReportal; We Are Social; Meltwater
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Additional Information:
Singapore; DataReportal; Q3 2022; 16 to 64 years; Online survey

16-64yrs

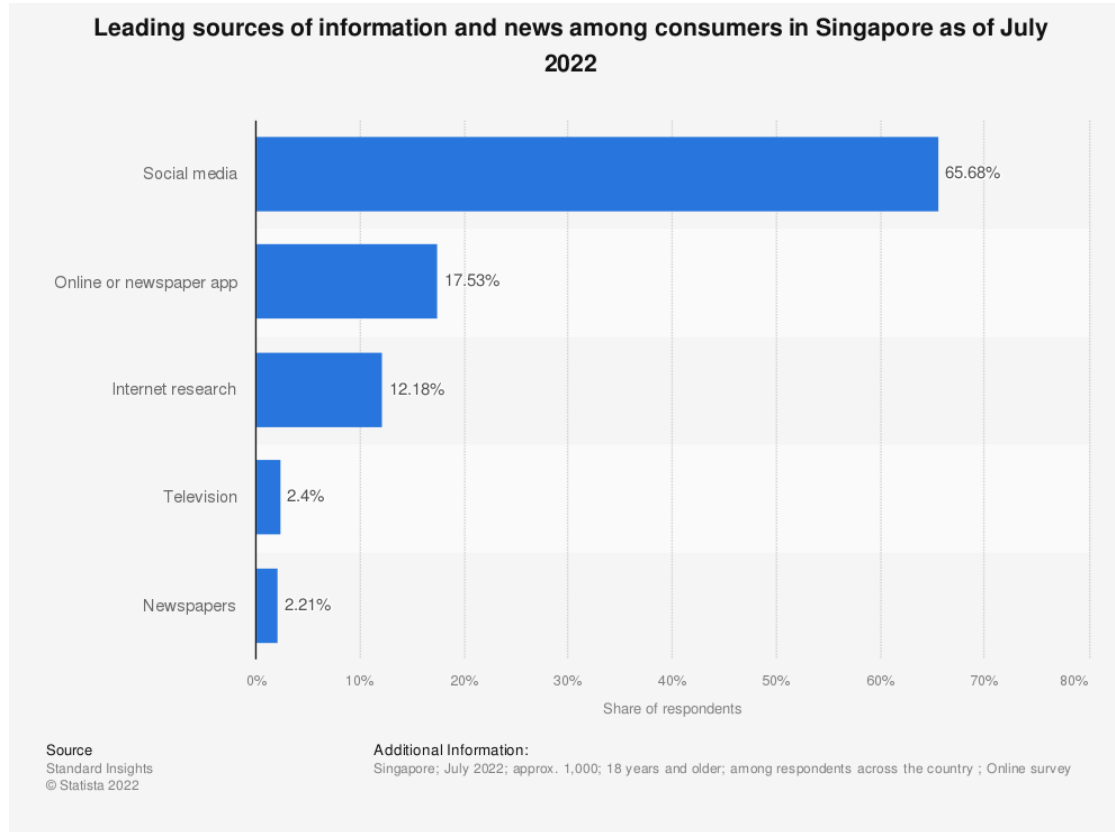**>50%**
Penetration

>40-50%
Penetration

(DataReportal, 2023)

Leading sources of information and news among consumers in Singapore (2022)

Leading sources of information and news among consumers in Singapore as of July 2022

Source	Share of respondents
Social media	65.68%
Online or newspaper app	17.53%
Internet research	12.18%
Television	2.4%
Newspapers	2.21%

Share of respondents

Source
Standard Insights
© Statista 2022

Additional Information:
Singapore; July 2022; approx. 1,000; 18 years and older; among respondents across the country ; Online survey

≥ 18 yrs

>65% of participants said they get their information/news from social media over newspapers (online or physical), internet research, and television
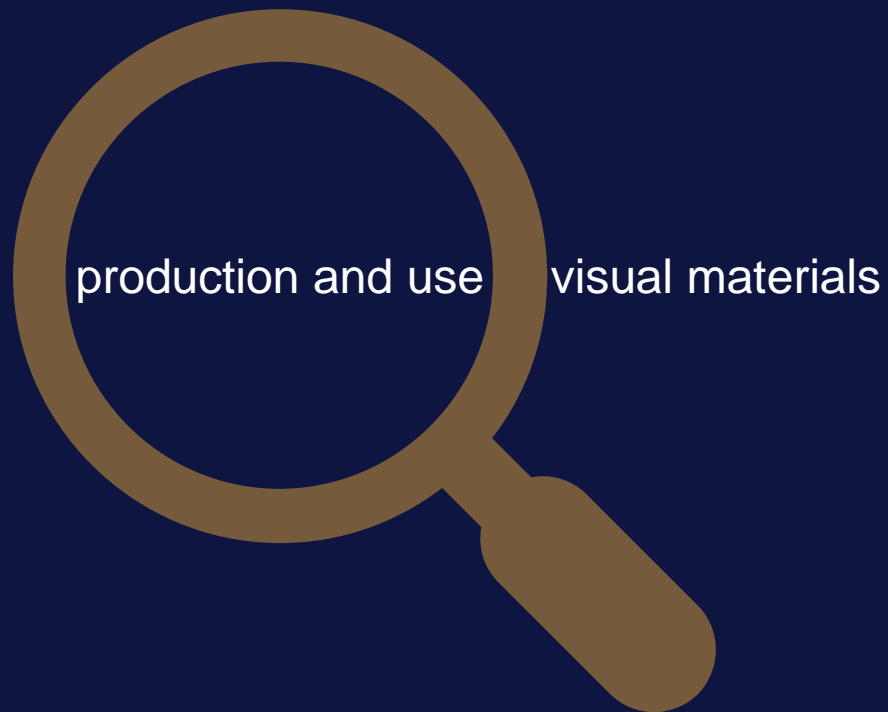
(Standard Insights, 2022)

Visual Literacy

Visual literacy is a set of abilities that enables an individual to effectively find, interpret, evaluate, use, and create images and visual media. Visual literacy skills equip a learner to understand and analyze the contextual, cultural, ethical, aesthetic, intellectual, and technical components involved in the production and use of visual materials. A visually literate individual is both a critical consumer of visual media and a competent contributor to a body of shared knowledge and culture.

From Companion Document to the ACRL Framework for Information Literacy for Higher Education: The Framework for Visual Literacy Higher Education
https://www.ala.org/acrl/sites/ala.org.acrl/files/content/standards/Framework_Companion_Visual_Literacy.pdf

production and use   visual materials

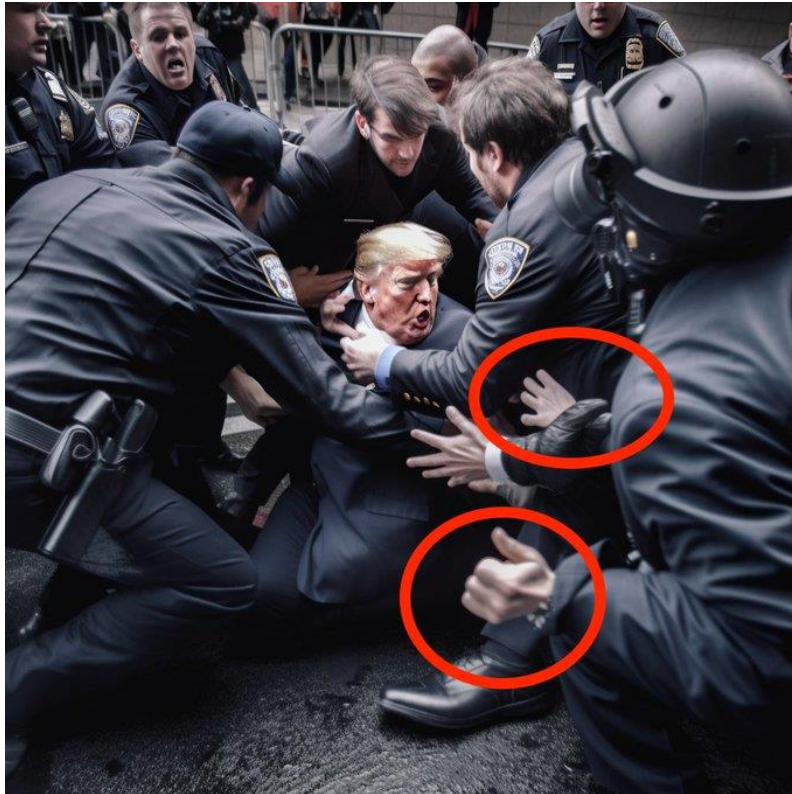# USE OF VISUAL MATERIALS

Realistic-looking generated images

WiseMedia (2023)

Realistic-looking generated images

Things to look out for:
- Details in the background
- Hands (missing or too many fingers)
- Reflections

WiseMedia (2023)

Tools you can use

- Goals:

  - To check if the image originated from a reputable source

  - Has the image been taken out of context?

  - Has there been manipulation to the original image?

- Reverse image searching

  - Google Lens, Yandex, TinEye, and Bing

- AI detection: HIVE Moderation
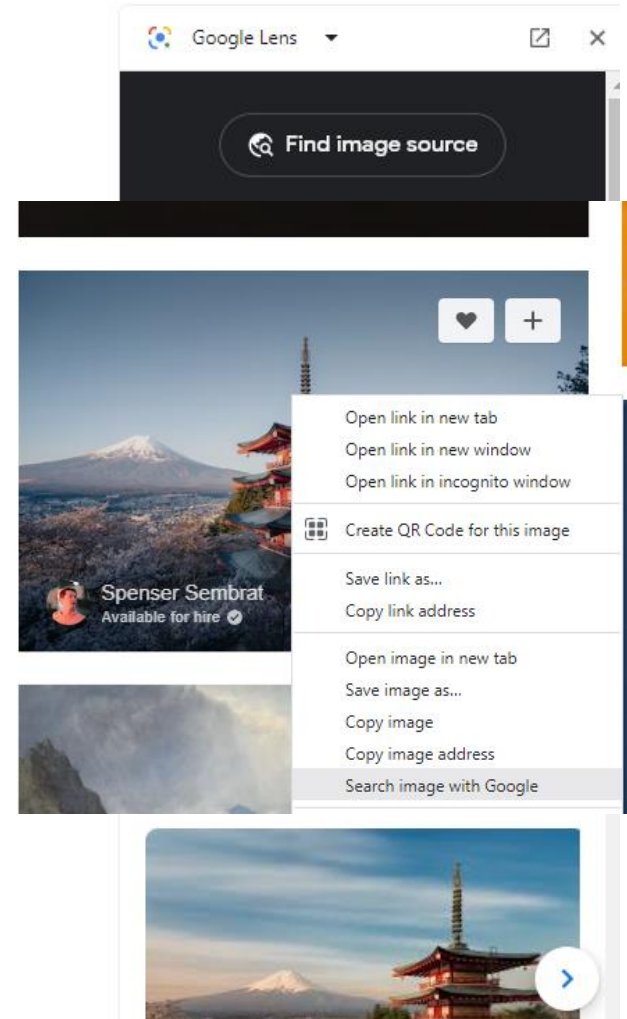
National Geographic Quiz

National Geographic [@natgeo]. (2023, Apr 25). Comment which cheetah image you think is AI-generated and read the full story at the link in bio for the answer. [Instagram photo]. Retrieved from https://www.instagram.com/p/Crbq8sXNy0i/

PRODUCTION OF VISUAL MATERIALS

How does generative AI work for images?

- Millions of images collated as training data for a model to analyse and learn from and mimic

  - If you're interested in the details: [How AI Image Generators Work (Stable Diffusion / Dall-E) – Computerphile](#)

- But where do these images come from?

  - While OpenAI is still being tightlipped, Stability AI has released their training data (Baio, 2022)

  - Stability AI faces a class action suit by artists and illustrators (Associated Foreign Press, 2023) and by Getty Images as well (Getty Images, 2023) for copyright infringement

  - MIT/Harvard researchers have shown that Stable Diffusion objectively succeeds at copying the styles of digital artists with copyrighted work (Casper, 2023)

How to teach AI Literacy

A model suggested by Hervieux & Wheatley (2023)

AI Literacy	AI Ethics and Bias	AI in Research
• Introduction to AI technologies • Terminologies • Evaluation Framework • Case Studies of AI	• How is bias introduced • Data privacy and consent issues • Research ethics	• Implications of using AI applications during research process • How to document use of AI
Similar to CRAAP, they suggest ROBOT for AI Reliability, Objective, Bias, Ownership, Type	Privacy protections for Italy by OpenAI (Mukherjee & Vagnoni, 2023) Spawning AI tool (haveibeentrained.com) to allow artists to opt in/out of training data (Spawning, 2023)	They suggest a set of questions similar to RDM plans Gebru & Marshall (2022) also suggest that any AI handling should pass through IRB

Conclusion

- Information landscape is rapidly changing

- As librarians, we need to do what we do best – we learn then we question and equip our users with skills to question, evaluate, and participate

- While it may seem like AI and evaluating AI is out of our wheelhouse, we do not need to reach the capability of being able to write programs ourselves, but we should educate ourselves on the mechanics

- Consume information not only from AI companies, but from computer scientists, AI ethics researchers, and perhaps more importantly those adversely affected by the rise in these technologies i.e. creative industry, ghost workers, etc.

Food for thought

"There are only a handful of companies in the world that have the combination of data and infrastructural power capable of creating what we're calling AI from nose to tail. […] We are now in a position where this technology is being created, distributed, refined, calibrated, and ultimately shaped to serve the economic interests of these same handful."

"The idea that this is going to magically become a source of social good […] is a fantasy used to market these programs."

- Meredith Whittaker, President of Signal, Chief Advisor to AI Now Institute
(Meet The Press, 2023)

Thank you

With special thanks to

Chai Yee Xin
Senior Librarian (Research Librarian – Law), NUS Libraries

More resources on Visual Literacy

Visual Literacy Today

Visual Literacy Today launches new teaching resource initiative

Determine Credibility (Evaluating) - Deepfakes

Thompson, D. S. (2019). Teaching students to critically read digital images: A visual literacy approach using the DIG Method. *Journal of Visual Literacy*, *38*(1-2), 110-119. https://doi.org/10.1080/1051144X.2018.1564604

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More resources on issues surrounding generative AI

- AI Data Laundering: How Academic and Nonprofit Researchers Shield Tech Companies from Accountability

- AI-generated comic artwork loses US Copyright protection

- ChatGPT and Copyright: The Ultimate Appropriation

- Generative AI: Hype, Harms, and the Responsible Tech Community by All Tech is Human

- Don't ask if Artificial Intelligence is good or fair, ask how it shifts power

- EU proposes new copyright rules for generative AI

- Former Copyright Office GC Warns Against Blanket Assertions That AI Ingestion of Copyrighted Works 'Is Fair Use'

- The Best Things in Life are Not for Free: Copyright and Generative AI Learning (Singapore specific)

- 150 African Workers for ChatGPT, TikTok and Facebook Vote to Unionize at Landmark Nairobi Meeting

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MediaWise [@mediawise]. (2023, April 5). *Check out the hands.... too many fingers? Too few? Totally digitally mangled? Then you are likely looking at an AI-generated image.* [Image attached] [Tweet]. Twitter. https://twitter.com/mediawise/status/1643313626629939203?s=20

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