

# Science communication for AI researchers- a short introduction



**AAAI 2025**

**Wednesday 26 February**

**13:00 – 14:00 Talk**

**14:00 – 15:00 Drop-in**

# Science communication for AI researchers



**Professor Michael Littman**  
Brown University



**Dr Lucy Smith**  
Alhub.org

- Alhub is a non-profit (UK charity) dedicated to connecting the AI community to the public by providing free, high-quality information
- We are supported by many leading AI organisations





## What's coming up at #AAAI2025?

Lucy Smith 19 Feb 2025

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## Interview with Kayla Boggess: Explainable AI for more accessible and understandable technologies

Lucy Smith 14 Feb 2025

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Hear from Doctoral Consortium participant Kayla about her work focussed on explanations for multi-agent reinforcement learning, and human-centric explanations.



## Interview with Kunpeng Xu: Kernel representation learning for time series

Lucy Smith 11 Feb 2025

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We hear from AAAI/SIGAI doctoral consortium participant Kunpeng Xu.



<https://aihub.org>



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# What we'll cover

- Why science communication matters
- Different ways to do science communication
- Working with media
- Communicating via social media
- Writing a blog post
- Tips on explaining complex concepts
- How to find and use suitable images
- How to avoid AI hype
- Unconventional ways to do science communication

## Aims

By the end of the session, you should be ready to:

- Communicate your work via social media
- Plan a blog post
- Choose images to illustrate your work



# Why science communication matters



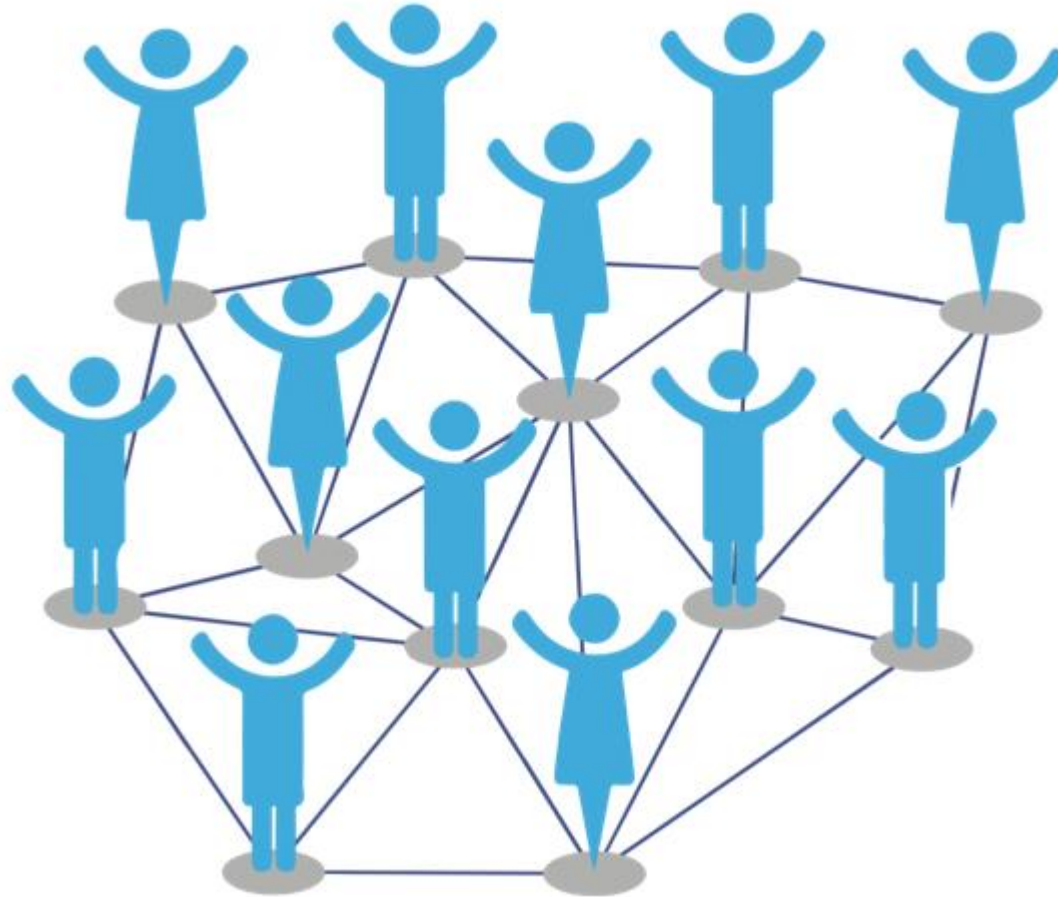


# Why science communication matters

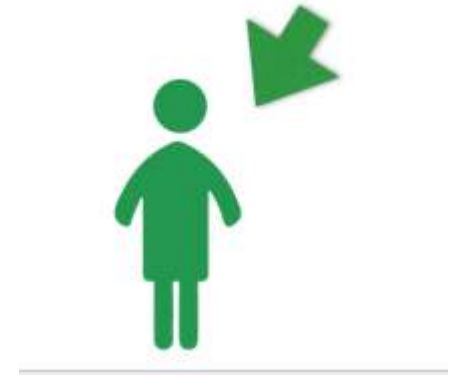


# Why science communication matters

- Policymakers
- Users
- Investors
- Public



- Expert view
- Demystifying technology
- Inspire others
- Build the future



# Benefits of sci-comm for you and your work

- Help build networks
- Find students, collaborators
- Help with grant applications
- Aid your understanding
- Improve your communication skills

# Different ways to do science communication

TV, public talks, radio

Blog posts

Collaboration with artists

Workshops

Competitions

Social media

Podcasts

Exhibitions



*Different ways to do science communication*  
*(<https://youtu.be/Jb8eRfItOLE>)*

# Talks

The video player shows a presentation slide with the following content:

- Title:** Beyond Large Language Models
- Text:** Adding missing modules and disentangling factual world knowledge from language and common sense could address virtually all of the shortcomings of today's LLMs
- Diagram:** A central diagram with blue boxes representing modules:
  - Top row: Planning, Meta-Cognition Self-Monitoring Orchestration, Formal Reasoning
  - Middle row: Language understanding & generation, Common sense knowledge, Factual world knowledge
  - Bottom row: Episodic Memory, Situation model
- Icons:** An ear icon on the left, a hand icon on the right, and a lips icon on the right.
- Footer:** ValGRAI July 2023

The video player interface includes a play button, progress bar (27:08 / 49:46), and various control icons.

"What's wrong with LLMs and what we should be building instead" - Tom Dietterich - #VSCF2023

valgrAI  
2.46K subscribers

Subscribe

3.2K | Share | Download | Clip

153K views 1 year ago VALENCIA

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

New #NLProc preprint on how to build better datasets/tools for mid- to low-resource lgges while respecting the labor of the data workers: [arxiv.org/abs/2410.12691](https://arxiv.org/abs/2410.12691)

We examine 1) "why" people work on mid- to low-resource languages and 2) whether they get properly credited. 1/

How is data curated/annotated?

What is needed?

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

Only 33% of the respondents consistently received credit for their work and 67% did not. This sometimes happened for work that took people more than a month to finish and often due to problematic incentivisation. 3/

## Threads about a research paper – Bluesky / X

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

Based on 81 responses from researchers working on >70 lgges: people often work on mid- to low-resource lgges because they are interested in lgges/CL/NLP/ML/... But also because they'd like to work on "their" own lgges & the data may be scarce/non-representative/... 2/

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

Examples of problematic incentivisation include: 1) community membership introduced as worth being added to the CV of a junior researcher, 2) helping the lgge speakers being compensation enough, etc. 4/

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

We reinforce the arguments made by previous work that focuses on the speakers and make recommendations on how to center the people (speakers+data workers), be fair to data workers, set realistic expectations, choose the jargon, and check the data sources. 5/

**Nedjma Ousidhoum** نجمة أوسيدهم @nedjmaou · Oct 22

Huge thanks to my collaborators @merlembeloucif and @SaifMMohammad and many thanks to anyone who responded to our survey or helped us spread the word [x.com/nedjmaou/statu...](https://x.com/nedjmaou/status...) :-)



The Deep Learning Indaba participants, in Dakar, Senegal 1-7 September 2024

## AfriClimate AI Participation at the Deep Learning Indaba 2024: From a Spark to a Community, Leading AI for Climate Action



September 13, 2024

The [Deep Learning Indaba 2024](#) was not just another event for us—it was a reunion. For [AfriClimate AI](#), the Indaba represents our birthplace. It was at the Indaba 2023 in Accra, Ghana, that a pivotal conversation ignited a movement, sparking the creation of AfriClimate AI. As [Rendani Mbuva](#), one of our founding members, recalls:

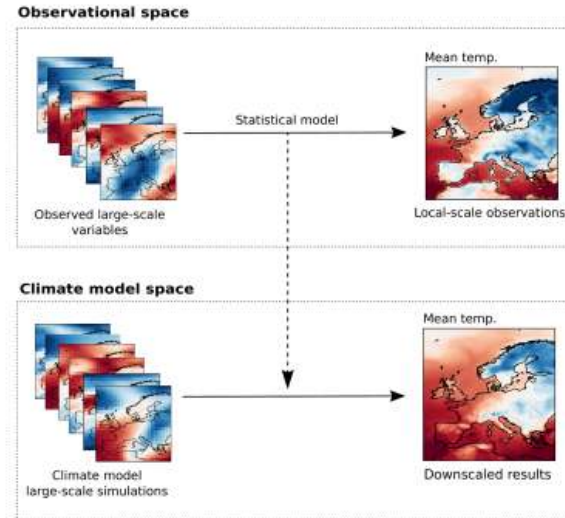
“Last year, I was invited to give a talk about my work on Uncertainty, AI, and Climate Science at the Deep Learning Indaba in Accra, Ghana. As is usual with invited talks, one tends to focus on the successful parts of the work. But for some reason, that morning, I decided to add a slide about the challenges of working in AI and sustainability in Africa, primarily driven by the pervasive data scarcity issues. It turned out that almost everyone in the room identified with these issues. This was the birthplace of AfriClimate AI.”

## Generating physically-consistent local-scale climate change projections

by [Jose González-Abad](#)

09 January 2024

shares this:



Imagine a farmer in charge of several fruit crops located over a small village in the Spanish countryside. He is worried about the increasing temperature, especially under climate change conditions, as this could have devastating effects on his crops in the future. The only tools available to inform the farmer about the evolution of climate in future scenarios are climate models, which are numerical models simulating the dynamics of climate. However, due to computational and physical limitations, the simulations of these models have very low resolution, spanning hundreds of kilometers, so the farmer has no specific information for the region spanning his crops.

A popular technique to overcome this limitation is statistical downscaling (SD), which consists of learning a statistical model to map from the coarse resolution of climate models to the demanded local-scale. There exist several ways of performing this SD. We focus on the so-called perfect prognosis approach, which learns the mapping between large-scale variables (for example, humidity and winds) and the demanded local-scale variable (for example, mean temperature) on actual measurements (observational data) and then applies it to the simulations of the climate models. This approach can generate local-scale simulations in future scenarios. In the following figure we show a schematic view of the perfect prognosis SD of the mean temperature.



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2,046 following

IEEE Spectrum

ieeespectrum

The latest technology news and analysis from the world's leading engineering magazine

[ieeespectrum.start.page](https://ieeespectrum.start.page)

POSTS

REELS

TAGGED



Fusion Reactor

This is a nuclear fusion reactor



Star Wars-Inspired Delivery Robot

## Short videos



# Video and audio interviews

## Alhub series featuring early-career researchers

### Alhub

@aihuborg · 111 subscribers · 11 videos

More about this channel ...more

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**Latest** Popular Oldest



Dimitri Coelho Mollo  
98 views · 2 years ago



Interview with Chris Emezue - New voices in AI  
84 views · 2 years ago



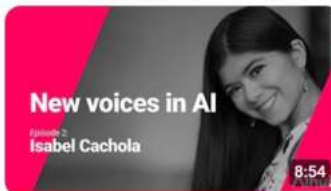
Interview with Oumaima Hajri - New Voices in AI  
253 views · 2 years ago



Interview with Nicolò Brandizzi - New Voices in AI  
68 views · 2 years ago



Interview with Maria de Arteaga - New voices in AI  
125 views · 2 years ago



Interview with Isabel Cachola - New Voices in AI  
62 views · 2 years ago



## YouTube channel News, opinions and explainers



### Jordan Harrod

@JordanHarrod · she/hers/her · 85.2K subscribers · 279 videos

Exploring the ways that we interact with artificial intelligence, algorithms,

[beacons.ai/jordanharrod](https://beacons.ai/jordanharrod) and 4 more links

Subscribe

Join



AI Knows What You Want for Black Friday... (But Should You Trust It?)

535 views · 2 days ago

Why Are AI Text Humanizers So Bad?

2.3K views · 1 month ago



### Two Minute Papers

@TwoMinutePapers · 1.59M subscribers · 935 videos

What a time to be alive! ...more

[users.cg.tuwien.ac.at/zsolnai](https://users.cg.tuwien.ac.at/zsolnai) and 3 more links

Subscribe

Join



NVIDIA's New AI: Stunning Voice Generator!

127K views · 7 days ago



AlphaFold 3 AI Just Won The Nobel Prize!

238K views · 6 months ago

## Short films



*The Wizard of AI, Alan Warburton*



*Data Justice, The Alan Turing Institute*

# Competitions

## AI Song Contest

The screenshot shows the website for the AI Song Contest 2024. In the top left corner, there is a logo consisting of a stylized 'AI' made of vertical lines, followed by the text 'SONG CONTEST 2024'. In the top right corner, there is a navigation menu with three items: 'Home', 'Finalists' (which is underlined), and 'Participants'. Below the navigation menu, there are three featured song entries, each with a video thumbnail and a play button icon. The first entry is 'Do AIs Dream?' by Yun+More, with a thumbnail showing a person's silhouette in a digital, circuit-like environment. The second entry is 'Genre Cannon' by Dadabots, with a thumbnail showing a person in a dark, hooded outfit in a dark, forest-like setting. The third entry is 'Sudamérica' by Onda Corta, with a thumbnail showing a colorful, stylized illustration of a South American landscape with palm trees, mountains, and people.

SONG CONTEST 2024

Home Finalists Participants

▶ Do AIs Dream?  
Yun+More

▶ Genre Cannon  
Dadabots

▶ Sudamérica  
Onda Corta

## Workshop highlights 'pivotal moment' for future of AI in space exploration



The [In-Space Physical AI Workshop](#), held recently at the [Ion District](#) in Houston, convened top scientists, engineers, entrepreneurs and government leaders to explore the role of artificial intelligence (AI) in space exploration — a domain poised to drive scientific discovery, economic growth and technological advancements.

# Workshops



*Camden Council data and AI workshops for residents*

## AI, Music, and the Human Spirit

Wednesday, 12 June 2024 1:00 pm - 5:00 pm

[Our Mission](#) London

**AI, MUSIC, AND THE HUMAN SPIRIT**

Wednesday, June 12 - 1 - 5pm GMT+1  
The Royal Society, 6-9 Carlton House Terrace  
London SW1Y 5AG

**FREE TICKETS**

Trustworthy Autonomous Systems Hub **RAI**

**Location:** The Royal Society, 6-9 Carlton House Terrace, London, SW1Y 5AG

*An event from Responsible AI (UK)*

# Collaborations with artists



Co-creating Better Images of AI



Journalists and musicians gather to hear a pianist perform parts of Beethoven's 10th Symphony. Ahmed Elgammal, [CC BY-SA](#)

# Why don't more people do science communication?



Don't know how



Don't have time



Don't have an audience

What's the first step?





# How do you want to communicate?

With help from external sources

- **Press office**
- **Media**

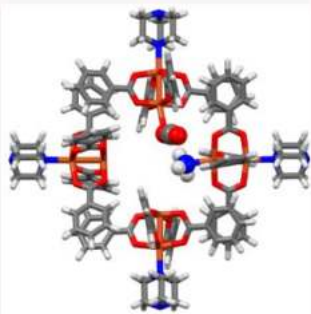
You control the communication

- **Social media**
- **Blog post**
- Podcast, videos
- **Unconventional sci-comm**

## Using your press office



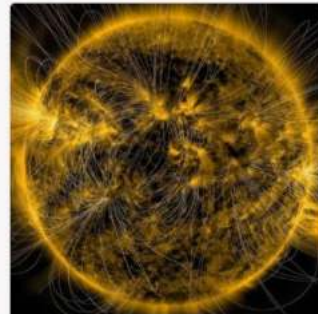
### Newsroom



Chemical structure's carbon capture ability doubled by Oregon State University



New 3D printing approach means better biomedical, energy, robotics devices



Scientists make Wile E. Coyote observation, confirming theory of how solar flares are created



DECEMBER 3, 2024

MedInclude partners with Grand River Hospital to improve patient communication with AI



DECEMBER 2, 2024

Tech Horizons showcases AI, innovation for business leaders



NOVEMBER 26, 2024

Driving global social impact with innovative technology

### EPFL NEWS



Stimulating hypothalamus restores walking in paralyzed patients



Could ChatGPT get an engineering degree?

# Using your press office

- Does your Institute / company have a press office?
- Connect with them
- They can help promote your work
  - Quotes
  - Short summary
  - Images / photos

# Working with the media - some tips

## Pitching

- Tell a story
  - What are the broader implications of your work
  - Don't just state the results
  - Do you have a hook?
- A video / image can be helpful in “selling” the story
- Try to connect with the journalist before sending your pitch

# Working with the media - some tips

## Types of questions a science journalist may ask

- Background to the research
  - Where did the idea come from?
  - What inspired you to work on this project?
- Context
  - What is the current state of the field?
  - Previous work
  - What are some of the main challenges in this field?
  - Plans for future work

# Working with the media - some tips

## Tips for answering

- Make your answers accessible
  - Try to avoid jargon and acronyms
  - Try to avoid technical specifics
- Try to connect your research to them (and the reader)
  - How would this impact on people and their lives?
  - What are the [potential] applications?

# The importance of owning your sci-comm

- When someone else reports on your work you may lose control over the content

Robot Programmed To Fall In Love  
With a Girl Goes Too Far

TECHNOLOGY NOVEMBER 27, 2013

News / Technology

Toshiba unveils the creepy robot that  
could one day steal your job

By Mary Jordan | 3:20pm Jan 8, 2015

**'KILLER' BOTS** Rogue superhuman AI 'could  
kill everyone' and wipe out human race...  
the tech should be controlled like nukes

**DOOM AND GLOOM** Creepy AI predicts what the Apocalypse will  
look like after scientists reset Doomsday Clock for 2023

Miracle robot will revolutionise brain surgery for  
epilepsy sufferers

INNOVATION

This "Psychic Robot" Can Read Your Mind

## How?

With help from external sources

- Press office
- Media

You control the communication

- **Social media**
- **Blog post**
- Podcast, videos
- **Unconventional sci-comm**



## A starting point to communicating directly: social media



## A starting point to communicating directly: social media

- Ways to use social media for your research:
  - Passive
  - Active



## How using social media can benefit your research - passive


- Follow other researchers in the field
  - Who do they follow?
  - Follow their followers.
  - Build your network.



# How using social media can benefit your research

## - passive

- Follow other researchers in the field
  - Who do they follow?
  - Follow their followers.
  - Build your network.
- Find out about events / workshops / other interesting content
- Find out about grants / positions / opportunities

 **Climate Change AI** @ClimateChangeAI · Oct 29  
Join our next discussion seminar on Nov 29!

Title: "Generative Adversarial Networks (GANs) and sequential planning for resilient and sustainable buildings and cities"  
Speakers: Ayca Duran, Abraham Wu & Qiming Ye

Learn more & sign up: [community.climatechange.ai/c/ccai-event-s...](https://community.climatechange.ai/c/ccai-event-s...)

**Discussion Seminar Series**

Generative Adversarial Networks (GANs) and sequential planning for resilient and sustainable buildings and cities


**Speakers**

- FCL** Future Cities Lab Global, ETH
- Ayca Duran** Doctoral student at ETH Zurich
- Abraham Wu** Doctoral student at the NUS
- Qiming Ye** Postdoctoral Researcher and Module coordinator

Friday, Nov 29, 2024

8:00-9:45AM ET | 3- 4:45PM CET | 9PM-10:45PM SGT

online

 **ESRC Digital Good Network** @digitalgoodnet

The Public Voices in AI Fund offers up to £50k for proposals led by orgs in Voluntary, Community & Social Enterprise sector (VCSE).

[digitalgood.net/the-public-voi...](https://digitalgood.net/the-public-voi...)

@turinginst @AdaLovelaceInst @ucl @responsibleaiuk  
#digitalgood #VSCE #voluntarysector #communitygroups #socialenterprise

**The Public Voices in AI Fund**

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## - passive

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  - Who do they follow?
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- Find out about events / workshops / other interesting content
- Find out about grants / positions / opportunities
- Follow journalists



**Khari Johnson** @kharijohnson · Jan 24

It's out! I started work on my first and last WIRED feature three years ago. It's about space law, satellite constellations, colonization, and a team of young women from Zimbabwe

## How using social media can benefit your research - passive

- Follow other researchers in the field
  - Who do they follow?
  - Follow their followers.
  - Build your network.
- Find out about events / workshops / other interesting content
- Find out about grants / positions / opportunities
- Follow journalists
- Read constructive discussions



**Thomas Dieterich** @tdietterich.bsky.social · 1mo

Does anyone know of groups studying how knowledge is retrieved, ranked, and filtered in GPT architectures? Can we blame hallucinations on failures in this process? Can SGD detect and fix errors in the process? Thanks for any pointers!

3



4



**Jelle Zuidema** @wzuidema.bsky.social · 1mo

Mor Geva et al had a great 2020/21 paper on viewing the MLPs in LLMs as key-value memories. Many later studies on factual retrieval have built on this, including much 'model editing' work.

[aclanthology.org/2021.emnlp-m...](https://aclanthology.org/2021.emnlp-m...)

For ranking, filtering & the difference between pretrained & finetuned  
1/2

# How using social media can benefit your research - active

- Use to promote your research
  - Can be a great tool for refining your message
  - How would you compress your research into a social media post or thread?
- Engage in constructive discussions
- Build connections with other researchers, journalists, organisations
- Feel part of a community
- Amplify the voices of others



## Caveats

- Can be easy to get sucked into controversies and arguments
- Short-form of social media posts often not conducive to in-depth discussions



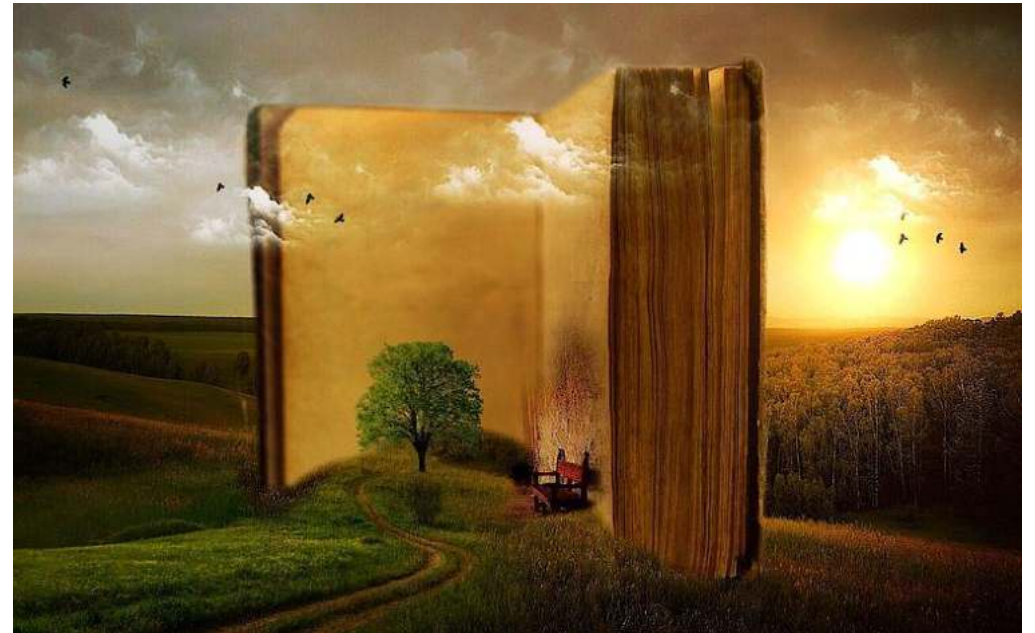


# Using social media to communicate your work



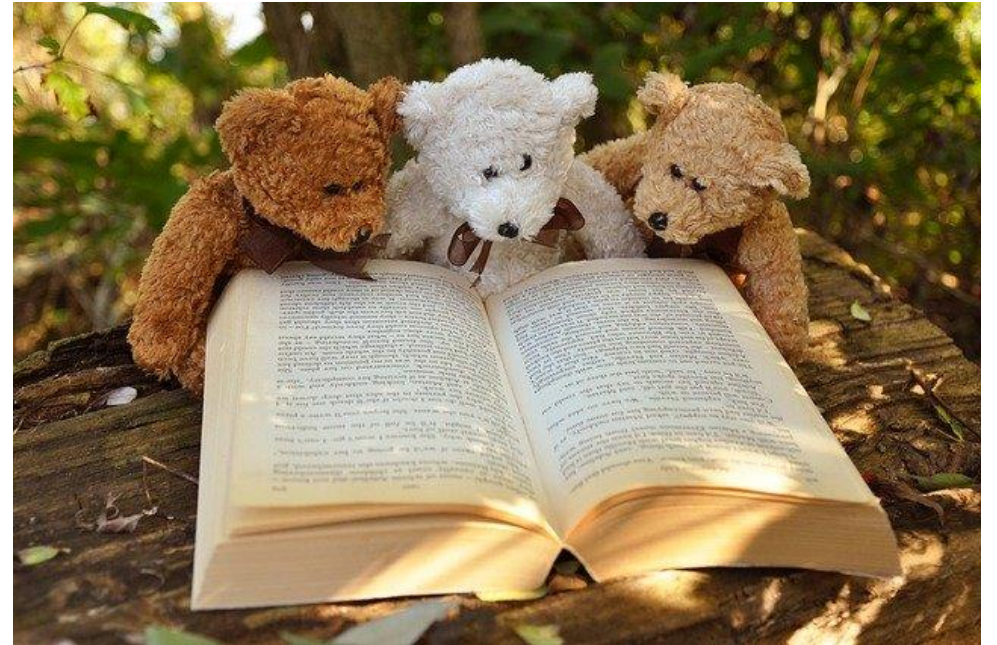
# Finding your story

- Which aspect of your research would you like to tell people about?
- How are you going to tell them?



# What makes a good story?

- Pitched at the right level for the audience



## What makes a good story?

- Pitched at the right level for the audience
- Connects with the audience:
  - Contains a link to application(s) from the real world
  - Touches on a lived experience / passion / problem



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- Takes the readers on a journey



## What makes a good story?

- Pitched at the right level for the audience
- Connects with the audience:
  - Contains a link to application(s) from the real world
  - Touches on a lived experience / passion / problem
- Takes the readers on a journey
- Has a structure and natural flow



## Your story on social media

- What problem are you trying to solve? \*
- Why is it important?
- How does this relate to people's lives?
- What is the current state of the field?
- What's the contribution of your research? \*
- What are the implications of your findings?
- What challenges did you face?
- What are the limitations of your contribution?
- What are you planning next?

(\* minimum starting point for communication on a social media platform)



# Example from a ML research paper

IOP Publishing

Mach. Learn.: Sci. Technol. 3 (2022) 045034

<https://doi.org/10.1088/2632-2153/aca23d>

MACHINE  
LEARNING  
Science and Technology



PAPER

## Self-supervised learning of materials concepts from crystal structures via deep neural networks

RECEIVED  
1 July 2022

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17 October 2022

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11 November 2022

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29 December 2022

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<sup>2</sup> Institute of Materials Structure Science (IMSS), High Energy Accelerator Research Organization (KEK), Ibaraki, Japan

<sup>3</sup> OMRON SINIC X Corporation, Tokyo, Japan

<sup>4</sup> Randeft, Inc., Tokyo, Japan

<sup>5</sup> Department of Applied Physics, Osaka University, Osaka, Japan

<sup>6</sup> Current affiliation: Advanced R&D and Engineering Company, TOYOTA MOTOR CORPORATION, Shizuoka, Japan.

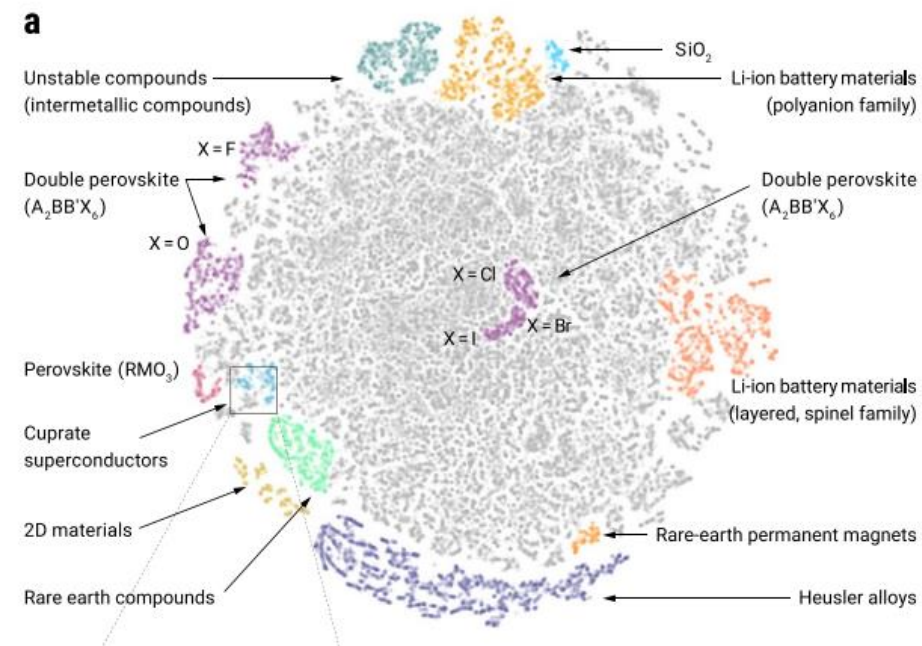
\* Author to whom any correspondence should be addressed.

E-mail: [ono@ap.eng.osaka-u.ac.jp](mailto:ono@ap.eng.osaka-u.ac.jp)

**Keywords:** materials informatics, deep metric learning, crystal structure, self-supervised learning

Supplementary material for this article is available [online](#)

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## Your story as a social media post / thread

The questions:

- What problem are you trying to solve?
- Why is it important?
- How does this relate to people's lives?
- What is the current state of the field?
- What's the contribution of your research?
- What are the implications of your findings?
- What challenges did you face?
- What are the limitations of your contribution?
- What are you planning next?

Materials discovery is a slow process that involves searching through a vast space of potential structures. Key to accelerating this process is understanding how the structure of a material affects its function. Suzuki *et al* have used ML to better understand, and map, this relationship.

# Turning your social media summaries into a blog post



# Our example research paper

IOP Publishing

*Mach. Learn.: Sci. Technol.* **3** (2022) 045034

<https://doi.org/10.1088/2632-2153/aca23d>

MACHINE  
LEARNING  
Science and Technology



CrossMark

## PAPER

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**Keywords:** materials informatics, deep metric learning, crystal structure, self-supervised learning

Supplementary material for this article is available [online](#)

## Turning your social media summaries into a blog post

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# Turning your social media summaries into a blog post

Materials discovery is a slow process that involves searching through a vast space of potential structures. Key to accelerating this process is understanding how the structure of a material affects its function. Suzuki *et al* have used ML to better understand, and map, this relationship.



Imagine you are working on developing a new material for an efficient battery. Where do you start? How do you go about finding that material? What structure would give you the properties you are looking for?

# Turning your social media summaries into a blog post

Materials discovery is a slow process that involves searching through a vast space of potential structures. Key to accelerating this process is understanding how the structure of a material affects its function. Suzuki *et al* have used ML to better understand, and map, this relationship.



Imagine you are working on developing a new material for an efficient battery. Where do you start? How do you go about finding that material? What structure would give you the properties you are looking for? In the past, this would have involved a time-consuming experimental fabrication process, most likely informed by theoretical models. Given the sparsity of materials in a vast search space, the process of discovering and fabricating a new material could take many years.

# Turning your social media summaries into a blog post

Materials discovery is a slow process that involves searching through a vast space of potential structures. Key to accelerating this process is understanding how the structure of a material affects its function. Suzuki *et al* have used ML to better understand, and map, this relationship.



Imagine you are working on developing a new material for an efficient battery. Where do you start? How do you go about finding that material? What structure would give you the properties you are looking for? In the past, this would have involved a time-consuming experimental fabrication process, most likely informed by theoretical models. Given the sparsity of materials in a vast search space, the process of discovering and fabricating a new material could take many years.

Now, imagine you could accelerate part of this process and narrow your search. The key to doing this is through an understanding the relationships between the structures of materials and their functional properties, as the diverse properties of materials are determined by their structures.

# Turning your social media summaries into a blog post

Materials discovery is a slow process that involves searching through a vast space of potential structures. Key to accelerating this process is understanding how the structure of a material affects its function. Suzuki *et al* have used ML to better understand, and map, this relationship.

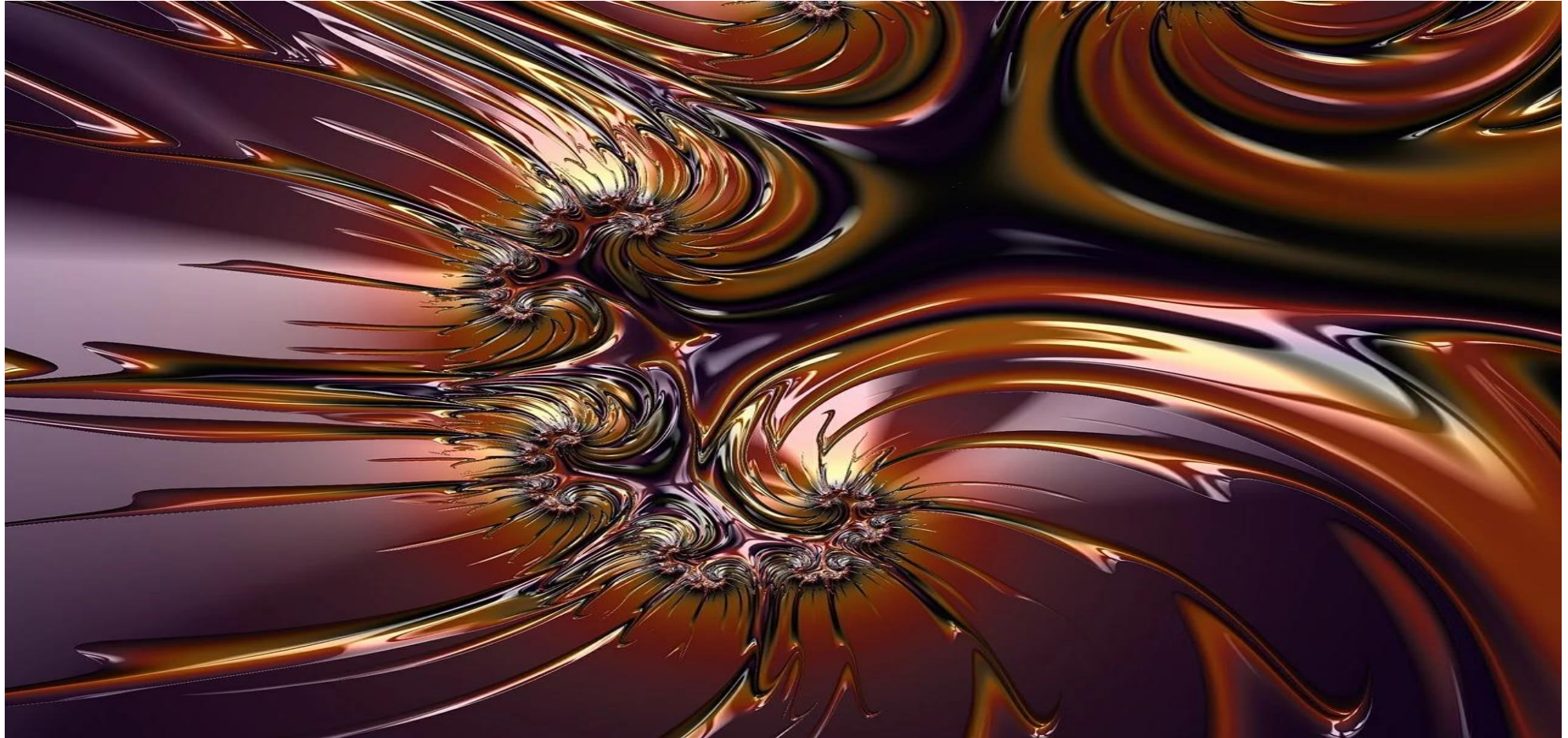


Imagine you are working on developing a new material for an efficient battery. Where do you start? How do you go about finding that material? What structure would give you the properties you are looking for? In the past, this would have involved a time-consuming experimental fabrication process, most likely informed by theoretical models. Given the sparsity of materials in a vast search space, the process of discovering and fabricating a new material could take many years.

Now, imagine you could accelerate part of this process and narrow your search. The key to doing this is through an understanding the relationships between the structures of materials and their functional properties, as the diverse properties of materials are determined by their structures. In their research, Suzuki *et al* used machine learning (ML) techniques to create a map of the materials space and measure the similarity between materials.



# Simplifying complex concepts



# Levels of complexity



CrossMark

OPEN ACCESS

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1 July 2022

PAPER

Self-supervised learning of materials concepts from crystal structures via deep neural networks

Yuta Suzuki<sup>1,2,6</sup>, Tatsunori Tanai<sup>3</sup>, Kotaro Saito<sup>2,4</sup>, Yoshitaka Ushiku<sup>3</sup> and Kanta Ono<sup>1,2,5,\*</sup>

Using a couple of sentences about their method and contribution as an example.

Level 1: suitable for a ML/physics audience.

- Suzuki *et al* have used a self-supervised deep learning approach to learn material embeddings from crystal structures of over 120 000 materials. This enabled them to capture relationships between the structure of a material and its properties.

# Levels of complexity



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Level 2: suitable for a tech/science-savvy audience (e.g readers of Wired or MIT Tech Review)

- Suzuki and colleagues have used a deep neural network (a type of machine learning algorithm) to better understand relationships between the structure of a material and its properties. Such properties could include superconductivity, or magnetism, for example. The researchers trained their model on 120 000 known materials and the algorithm learned the key features of each material, then mapped that material to a point in a multi-dimensional space. The closer two materials are to one another in this space, the greater the similarity between their properties.

# Levels of complexity



OPEN ACCESS

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1 July 2022

PAPER

Self-supervised learning of materials concepts from crystal structures via deep neural networks

Yuta Suzuki<sup>1,2,6</sup>, Tatsunori Taniai<sup>1</sup>, Kotaro Saito<sup>2,4</sup>, Yoshitaka Ushiku<sup>3</sup> and Kanta Ono<sup>1,2,5,\*</sup>

Level 3: suitable for a more general audience.

- Researchers have used a machine learning algorithm to better understand materials and their properties. Such properties could include superconductivity, or magnetism, for example. The algorithm was trained on data about over 120 000 different materials and used this information to group the materials according to the similarity of their properties. The method for clustering similar materials is like that used for recommender systems (“you’ve seen this film, so here’s another you may like”). However, instead of the algorithm suggesting films similar to those you’ve seen before, it can indicate materials with similar properties.

# Levels of complexity



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OPEN ACCESS

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1 July 2022

PAPER

## Self-supervised learning of materials concepts from crystal structures via deep neural networks

Yuta Suzuki<sup>1,2,6</sup>, Tatsunori Taniai<sup>1</sup>, Kotaro Saito<sup>2,4</sup>, Yoshitaka Ushiku<sup>3</sup> and Kanta Ono<sup>1,2,5,\*</sup>

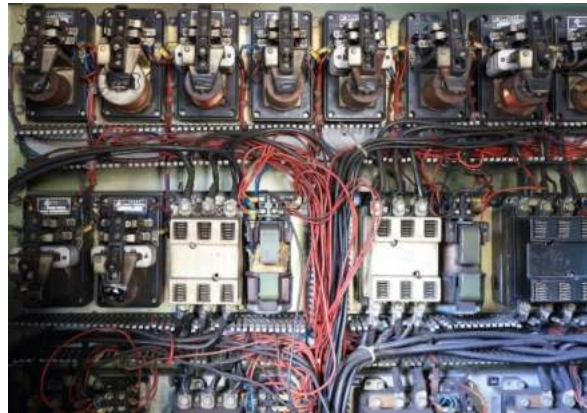
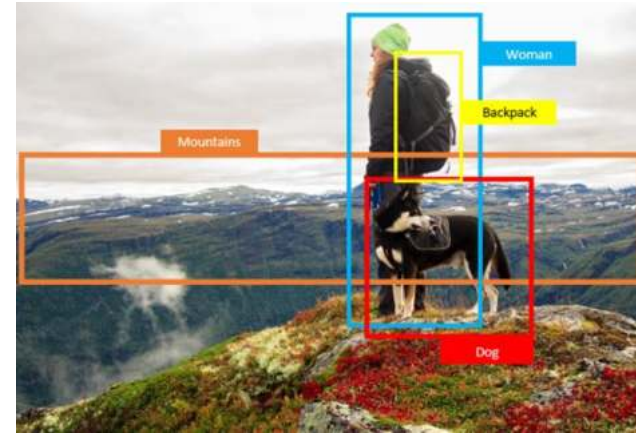
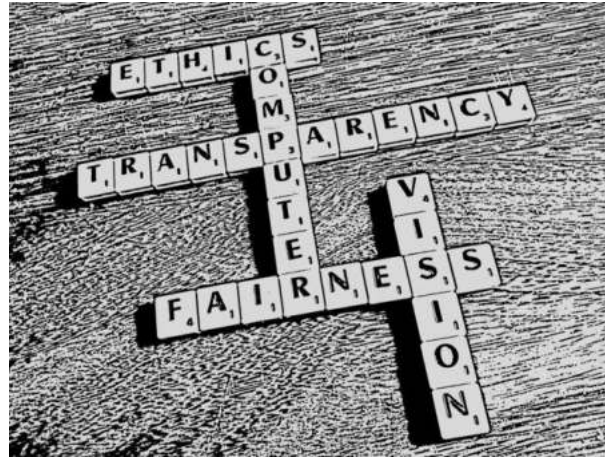
rewrite this so that a 14-year old could understand it: Suzuki et al have used a self-supervised deep learning approach to learn material embeddings from crystal structures of over 120 000 materials. This enabled them to capture relationships between the structure of a material and its properties



Imagine you have a giant puzzle with over 120,000 pieces, each representing a different material. Each piece has a unique shape and color, showing how the atoms in the material are arranged. Scientists used a super smart computer program to learn the patterns in these shapes and colors. This program, called a deep learning model, got better and better at recognizing the patterns by looking at lots of different puzzle pieces.



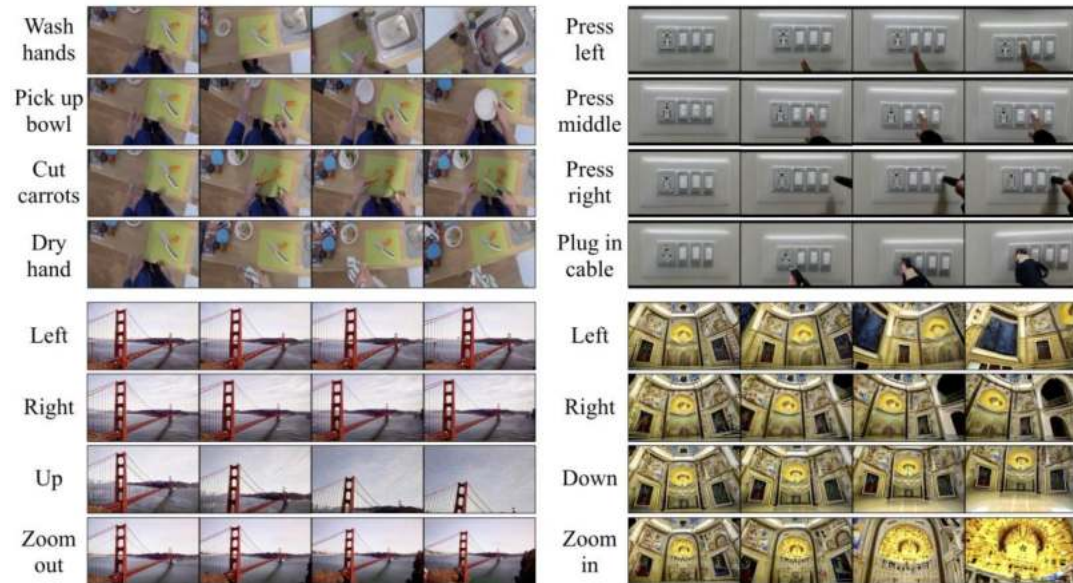
# Creating a portfolio of media



# Creating a portfolio of media

Enhancing your blog posts with images and videos can:

- Help increase the visual impact of your work
- Aid the understanding of concepts you are describing

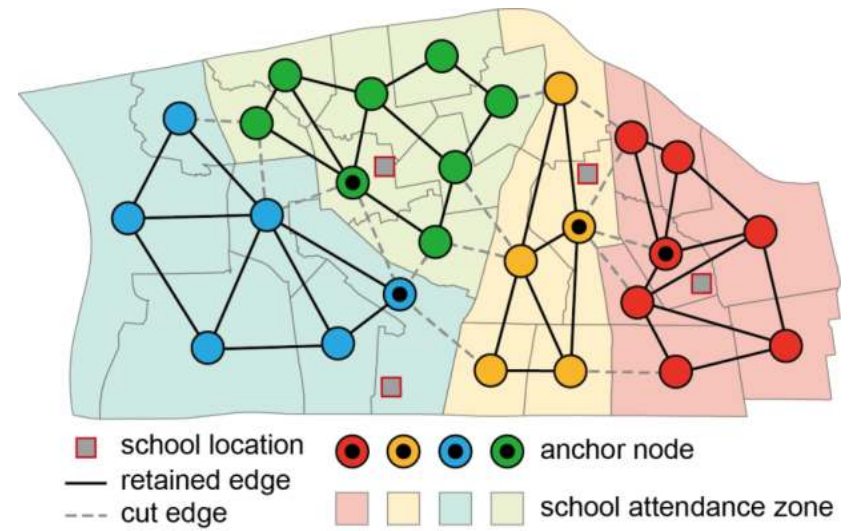


Credit: Sherry Yang

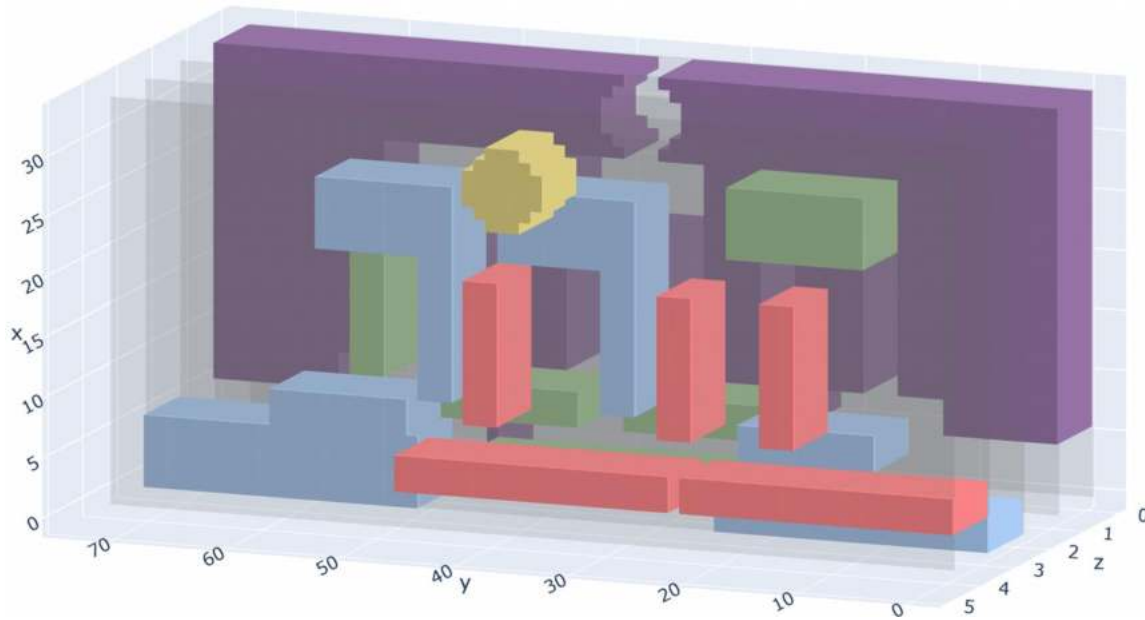


# Creating a portfolio of media

- Option 1: use photos, graphs, images from your own research



Credit: Fanglan Chen



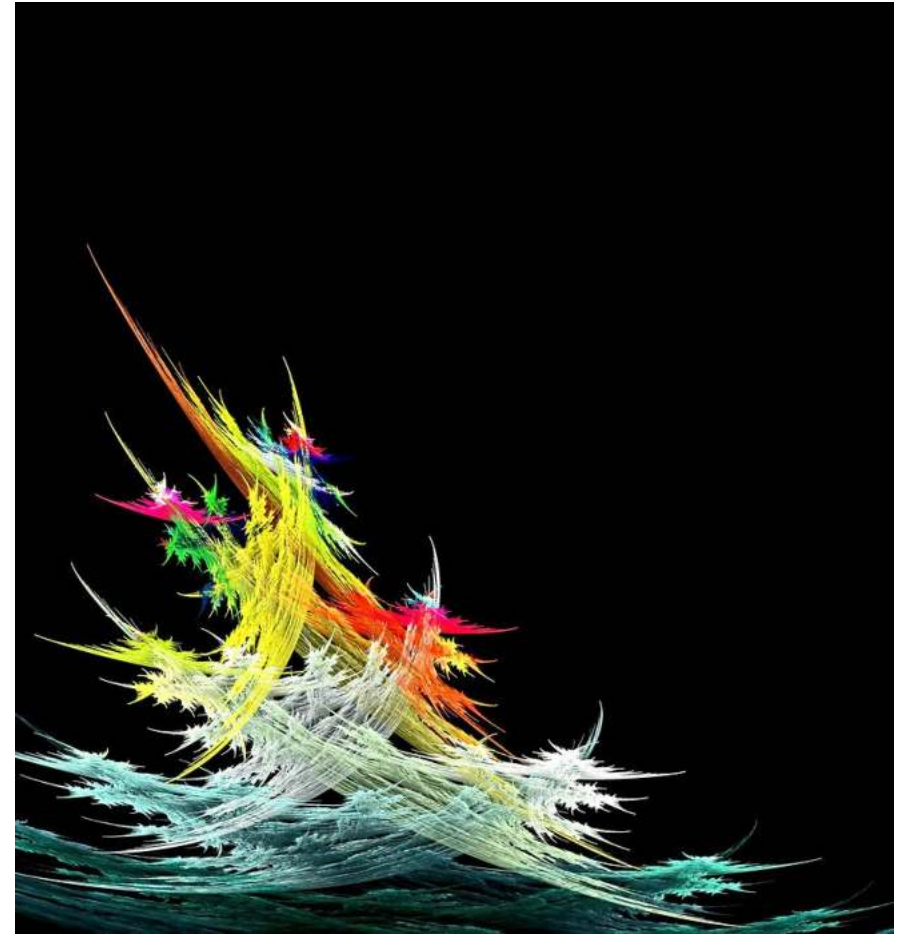
Credit: Matthew Stephenson and Frederic Abraham



Credit: Guillem Alenya

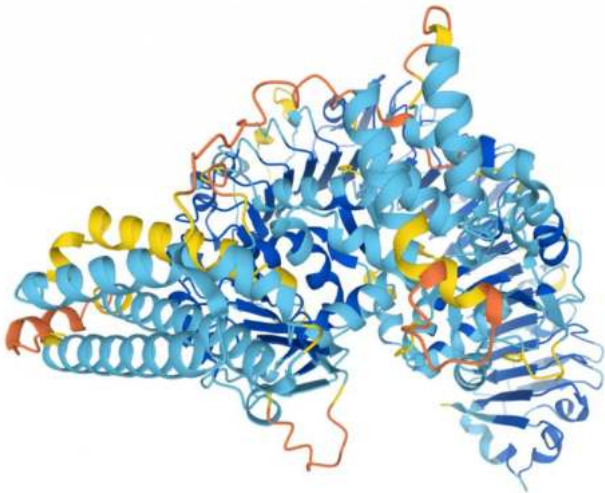
## Creating a portfolio of media

- Option 2: Use stock images. Either bought...



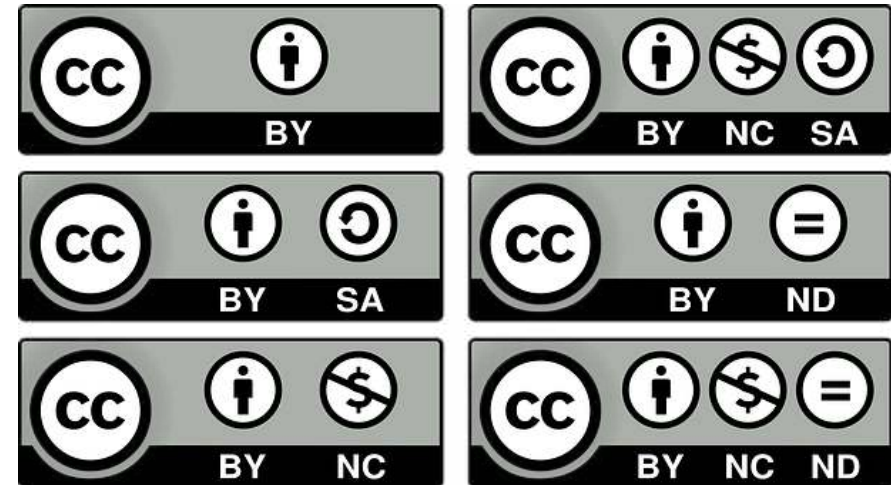
## Creating a portfolio of media

- Option 2: Use stock images.... or free to use
- Be sure to check the license conditions for reproducing the image.



## Creative commons licenses

- A Creative Commons (CC) license is one of several public copyright licenses that enable the free distribution of an otherwise copyrighted "work".



## Creative commons licenses



- **Attribution.** Give attribution to original author(s)



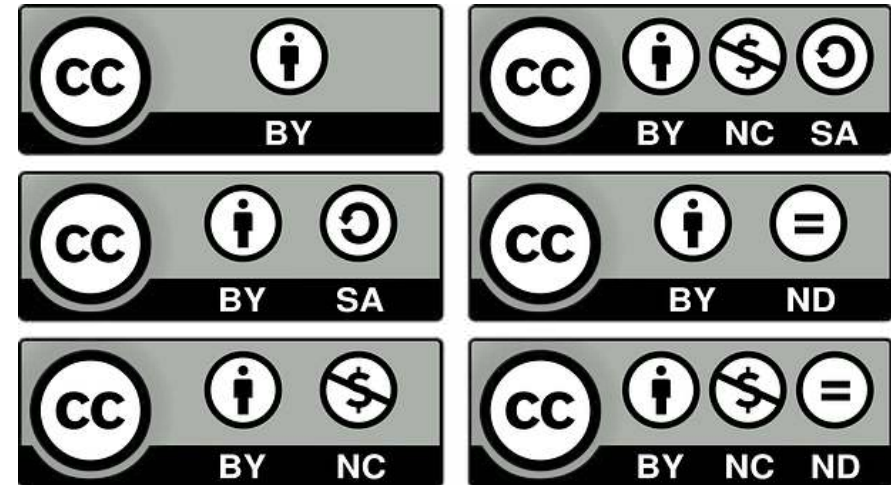
- **Share-alike.** You must share using a licence identical to the original



- **Non-commercial.** You cannot reproduce for commercial purposes.



- **No derivative works.** You cannot change or remix the content.



## Creating a portfolio of media

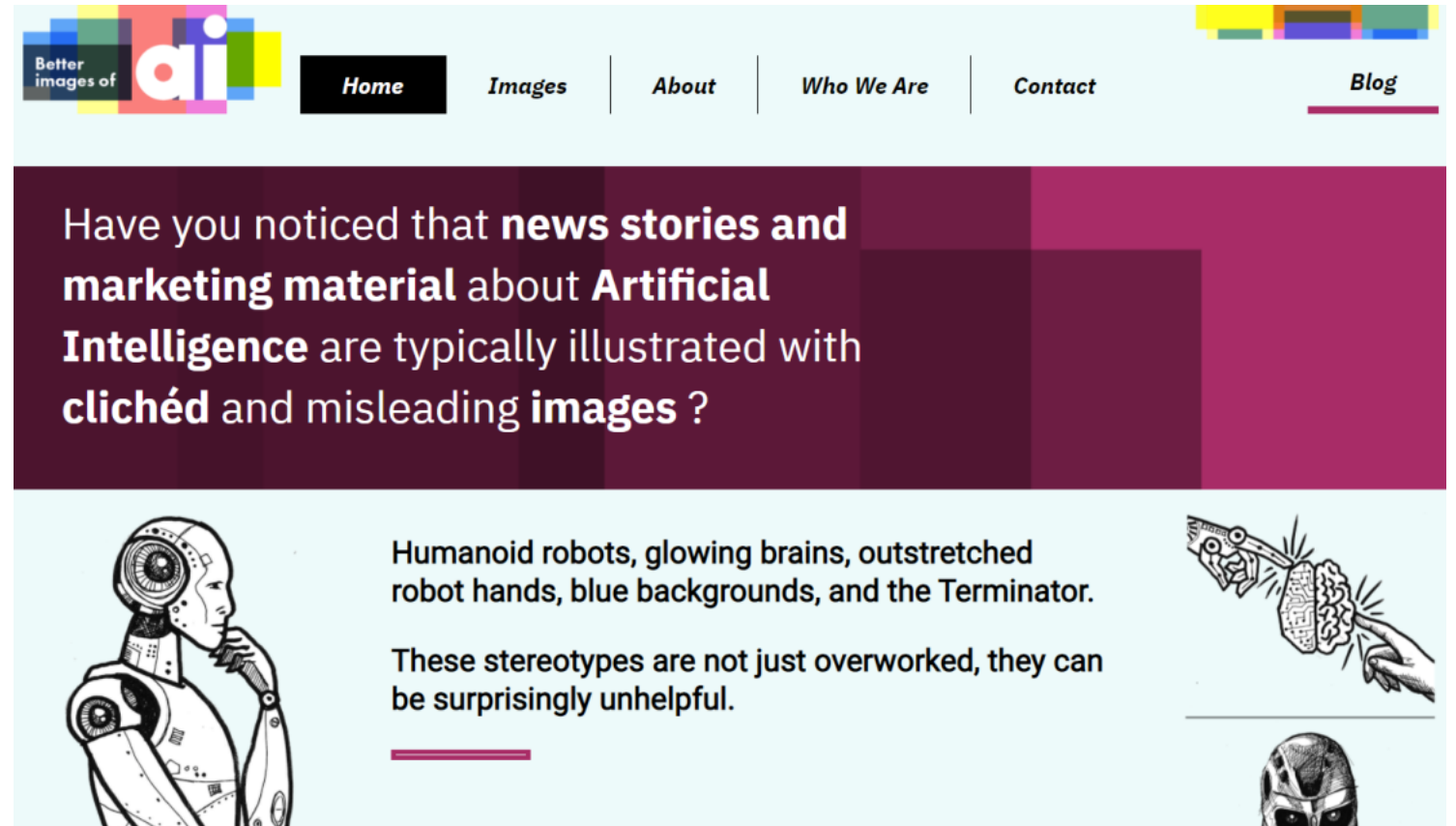
- <https://pixabay.com/>
- <https://unsplash.com/>
- <https://snappygoat.com/>
- <https://www.pexels.com/>
- <https://burst.shopify.com/>
- <https://www.flickr.com/>
- [https://commons.wikimedia.org/wiki/Main\\_Page](https://commons.wikimedia.org/wiki/Main_Page)



# Better Images of AI

Better Images of AI

<https://betterimagesofai.org/>



The screenshot shows the homepage of the website 'Better Images of AI'. The header features a navigation menu with links for 'Home', 'Images', 'About', 'Who We Are', 'Contact', and 'Blog'. The main content area has a dark purple background with white text asking if the user has noticed clichéd and misleading AI images in news and marketing. Below this, there are three illustrations: a humanoid robot, a glowing brain being held by a hand, and a Terminator robot head.



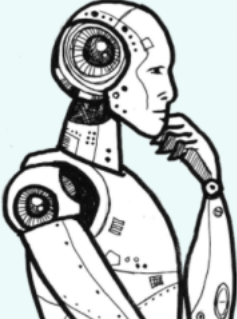
Better images of **ai**

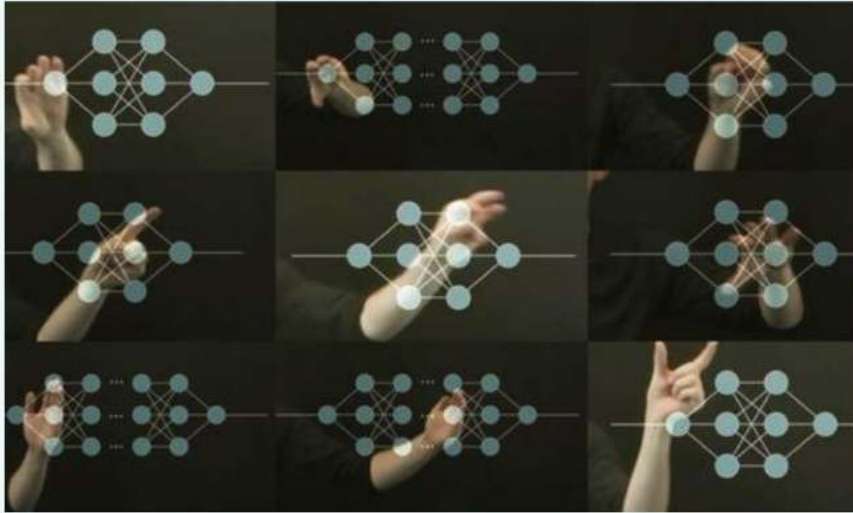
[Home](#) | [Images](#) | [About](#) | [Who We Are](#) | [Contact](#) | [Blog](#)

Have you noticed that **news stories and marketing material** about **Artificial Intelligence** are typically illustrated with **clichéd** and misleading **images** ?

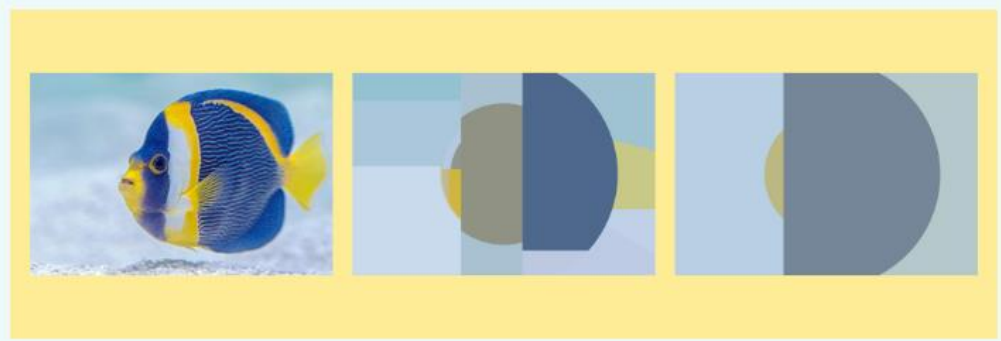
Humanoid robots, glowing brains, outstretched robot hands, blue backgrounds, and the Terminator.

These stereotypes are not just overworked, they can be surprisingly unhelpful.





Explainable AI - Alexa Steinbrück



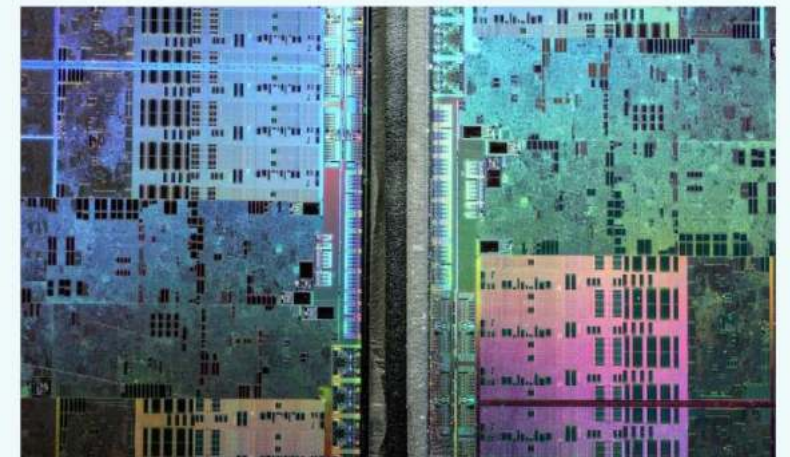
Fish reversed - Rens Dimmendaal & David Clode



Autonomous Driving - Anton Grabolle



Quantified Human - Alan Warburton

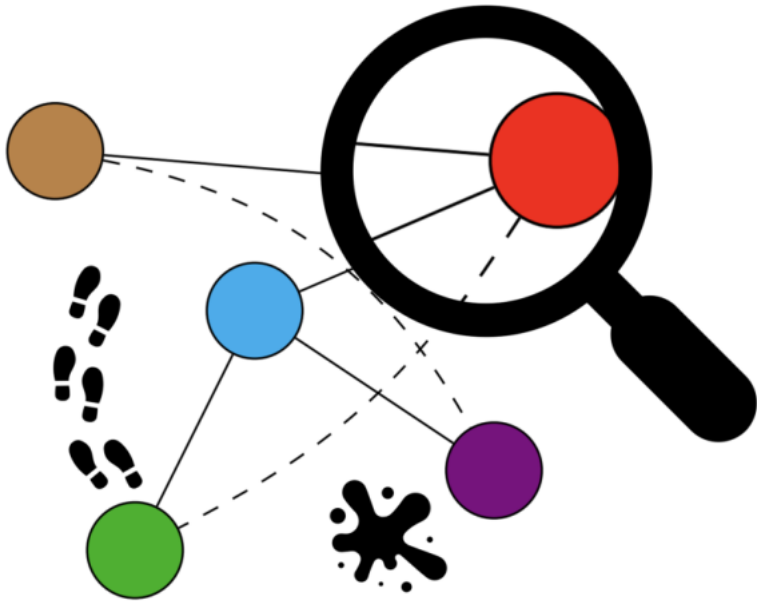


GPU shot etched 5 - Fritzchens Fritz



## Creating a portfolio of media

- Option 3: create your own images



Credit: Ramon Fernández Mir and Lauren Nicole DeLong



<https://aixdesign.co/posts/archival-images-of-ai>

# Welcome to Archival Images of AI : Creating better images of AI through digital heritage

We invite you to play with it, tear it, glue it or rip it apart.

THIS PLAYBOOK IS THE RESULT OF OUR RESEARCH INTO HOW EXISTING IMAGES – ESPECIALLY THOSE FROM **DIGITAL HERITAGE COLLECTIONS** – CAN BE REMIXED AND REUSED TO CREATE NEW IMAGES, PARTICULARLY TO REPRESENT **AI** IN MORE COMPELLING WAYS.

# Archival Images of AI

## Creating better images of AI through digital heritage

PLOIPAILIN FLYNN  
NADIA PIET  
DOMINIKA CUPKOVA  
CRISTOBAL ASCENCIO  
HANNA BARAKAT  
ZEINA SALEEM  
ERYK SALVAGGIO

AI X DESIGN

ai

Who's AI

SOUND & VISION

## Creating a portfolio of media

- Option 4: AI-generated images

Try to include your prompt

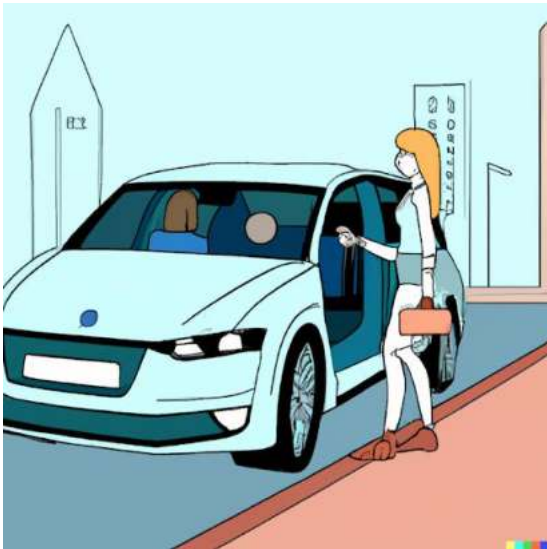


Image created by author using DALL.E.  
Prompt: "A woman getting into a self driving car. Cartoon style"



Image created using DALL-E with the prompt "Games, Chemistry, Artificial Intelligence".



Image generated with DALL-E. Prompt: "An AI learning to crack tough puzzle (with no text on the image)"



# Hype

Whilst it can be good to create a buzz around your research, too much hype tends to:

## Hype

Whilst it can be good to create a buzz around your research, too much hype tends to:

- Set inflated expectations about the technology

---

11-19-2024 | DESIGN

### **This AI taught itself to do surgery by watching videos—and it's ready to operate on humans**

The new smart robot developed by Johns Hopkins and Stanford University researchers learned by watching videos of surgeries. Now it can perform procedures with the skill level of a human doctor.

### **Technology**

### **Housework robot can learn to do almost any chore in 20 minutes**

A robotic assistant can learn to do household jobs like opening cupboards, pulling out chairs or taking a towel off a rail after a bit of training using a stick with an iPhone on it

## Hype

Whilst it can be good to create a buzz around your research, too much hype tends to:

- Set inflated expectations about the technology
- Drive unnecessary fears in the general public

NEWS / CAR TECH

**Self-Driving Cars Could Steal 300,000 American Jobs a Year, Goldman Sachs Says**

THE  
STANDARD 

LIFESTYLE

**Is the AI apocalypse actually coming? What life could look like if robots take over**

From job losses to mass extinction events, experts are warning that AI technology risks opening a Pandora's Box of horrors if left unchecked — are they right to be sounding the klaxon? Katie Strick reports

# Hype

Whilst it can be good to create a buzz around your research, too much hype tends to:

- Set inflated expectations about the technology
- Drive unnecessary fears in the general public
- Detract from meaningful discussions about the actual aspects of the technology that we need to be concerned about



How the Other Half Lives: The Hidden Labor Behind ChatGPT | Karen Hao

Joule



Volume 7, Issue 10, 18 October 2023, Pages 2191-2194

Commentary

## The growing energy footprint of artificial intelligence

Alex de Vries<sup>1,2,3</sup>



# Tips for avoiding hype in your sci-comm



# Tips for avoiding hype in your sci-comm

- Don't exaggerate the impact of your work:
  - Be specific about your contribution
  - Make any limitations clear
  - Try to avoid superlatives: “best, first, ...” etc (unless you can back up your claim)
- Try to avoid anthropomorphism
  - “decides”, “judges”, “understands”

## Artifice and Intelligence

EMILY TUCKER / MAR 16, 2022

*Emily Tucker is the Executive Director of the [Center on Privacy & Technology at Georgetown Law](#).*

"My quarrel with the English language has been that the language reflected none of my experience. But now I began to see the matter in

Starting today, the Privacy Center will stop using the terms “artificial intelligence,” “AI,” and “machine learning” in our work to expose and mitigate the harms of digital technologies in the lives of individuals and communities.

### AUTHORS



#### EMILY TUCKER

Emily Tucker is the Executive Director at the Center on Privacy & Technology at Georgetown Law, where she is also an adjunct professor of law. She shapes the Center’s strategic vision and guides its programmatic work. Emily joined the Center after serving as a Teaching Fellow and Supervising Attorne...

**(1) Be as specific as possible about what the technology in question is and how it**

**works.** For example, instead of saying “face recognition uses artificial intelligence,” we might say something like “tech companies use massive data sets to train algorithms to match images of human faces.” Where a complete explanation is disruptive to our larger argument, or beyond our expertise, we will point readers to external sources.

**(2) Identify any obstacles to our own understanding of a technology that result from**

**failures of corporate or government transparency.** For example, instead of saying “employers are using AI to analyze workers’ emotions” we might say “employers are using software advertised as having the ability to label workers’ emotions based on images of them from photographs and video. We don’t know how the labeling process works because the companies that sell these products claim that information as a trade secret.”

**(3) Name the corporations responsible for creating and spreading the technological**

**product.** For example, instead of saying “states use AI to verify the identities of people applying for unemployment benefits,” we might say “states are contracting with a company called ID.me, which uses Amazon Rekognition, a face matching algorithm, to verify the identities of people applying for unemployment benefits.”

**(4) Attribute agency to the human actors building and using the technology, never to the technology itself.** This needn’t always require excessive verbiage. For example, we might

substitute “machine training,” which sounds like something a person does with a machine, for “machine learning” which sounds like a computer doing something on its own.

## Artifice and Intelligence

---

# Tips for avoiding hype in your sci-comm

- Choose relevant images: avoid stereotypical images of robots from science fiction!
- Title: this can be catchy, but try to prioritize scientific accuracy



## Unconventional ways of doing sci-comm



# Swarm escape




## Swarm escape





# Immersive theatre



The poster features a central illustration of a woman's face with a hexagonal pattern overlaid on her neck and chest. The background is a light beige color with faint, repeating text. The text on the poster includes:

Back by popular demand!  
10-12 & 15-18 March 2018  
3pm & 7.30pm  
Secret location  
in Clifton, Bristol  
Tickets: £10/£8  
Pre-booking essential  
[kiltertheatre.org/invincible](http://kiltertheatre.org/invincible)

Kilter Theatre presents  
**INVINCIBLE**  
what would you decide?  
in partnership with Bristol SynBio  
written by David Lane

kilter  
beyond theatre

BrisSynBio  
The interdisciplinary synthesis of  
biology and engineering to design

University of  
BRISTOL

synenergene  
Responsible Research and Innovation in Synthetic Biology



# The AI Song Contest

The screenshot displays the website for the AI Song Contest 2024. At the top left is the logo, which consists of a stylized 'A' made of vertical lines followed by the text 'SONG CONTEST 2024'. To the right of the logo are navigation links: 'Home', 'Finalists', and 'Participants', with 'Finalists' being the active page. Below the navigation is a row of three featured song cards. Each card has a video thumbnail and a dark grey box at the bottom containing a play button icon, the song title, and the artist's name.

Image	Song Title	Artist
	Do AIs Dream?	Yun+More
	Genre Cannon	Dadabots
	Sudamérica	Onda Corta

## TV / film discussion



### Smooov and Curly on Video E01



Michael Littman  
1.2K subscribers

Subscribe

👍 57



➦ Share



- AI researchers discuss Westworld!
- Commenting on the AI, machine learning and computer science ideas in the show

# Other unconventional ways of doing sci-comm

## Some examples to think about:

- Photograph essay
- Comic
- Stand-up monologue
- Short film
- Sci-fi book
- Food dish
- Escape room
- Sitcom
- Dance
- Theatre play
- Painting
- Sculpture
- Music festival performance
- Children's book
- Video game
- Tik tok

Who is your audience, and could any of these formats help you communicate better?  
Are there any aspects of your research that work with any of these formats?

## Next steps

- Try out some of the exercises from this talk
- From 2-3pm: an informal session to discuss any ideas you have regarding sci-comm
- Interested in covering AAI for AIhub?
- Reach out to us - we can work with you to help you shape your story
- <https://aihub.org/science-communication-for-ai-researchers-an-introduction-at-aaai2025/>



aihuborg@gmail.com



<https://aihub.org>



<https://aihub.org>



[aihuborg@gmail.com](mailto:aihuborg@gmail.com)



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# Questions?

