



PEAs in Pods

Community | Engagement | Research

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EPSRC PEAs in Pods: Co-production Of Community Based Public Engagement For Data And AI Research

Funded by EPSRC Grant Ref: EP/W033488/1 2022



Engineering and
Physical Sciences
Research Council



Manchester
Metropolitan
University

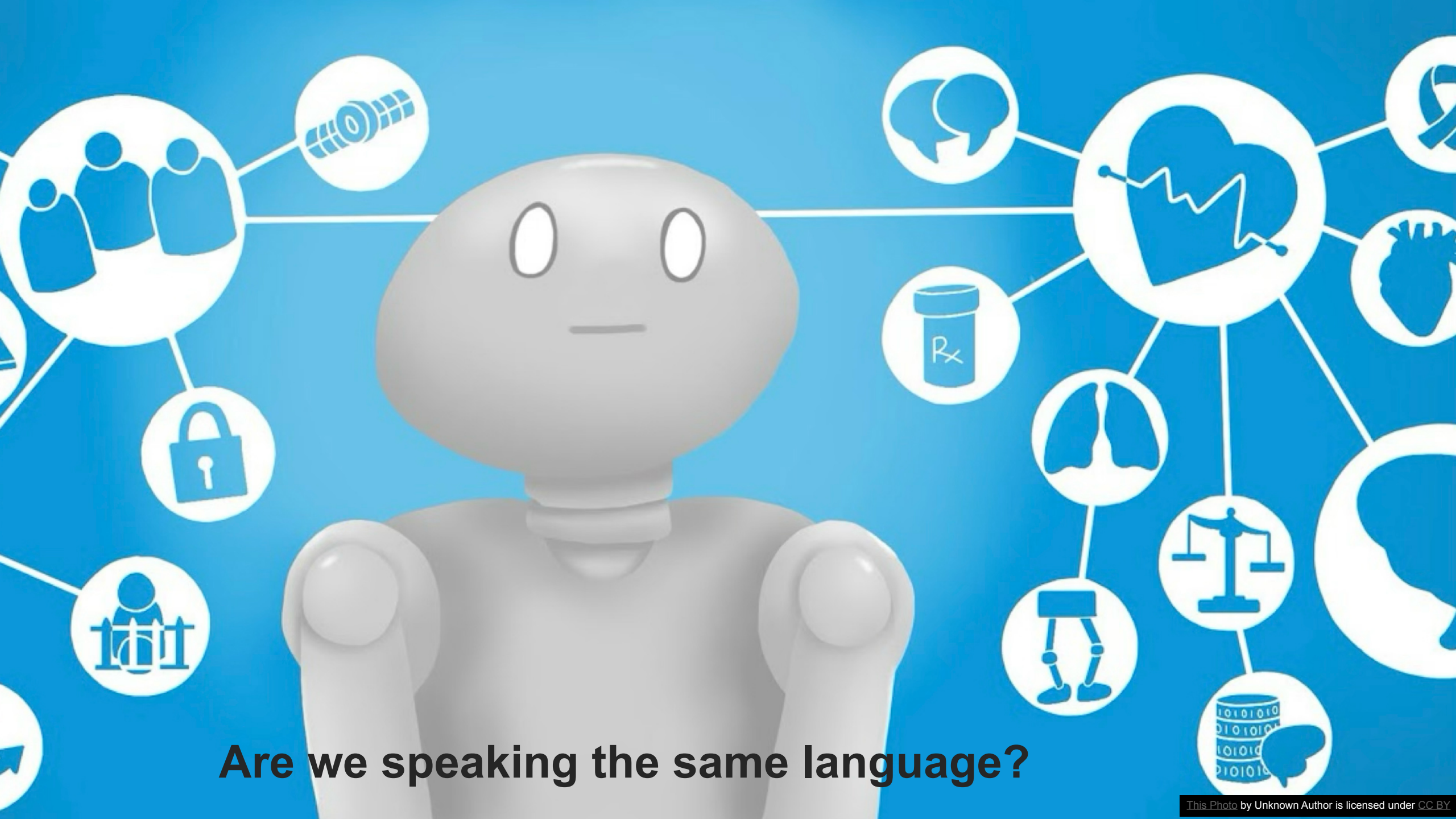
Activity 1.4 Are we speaking the same language?



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Activity Aims:

- To explore the challenges around language and meaning when communicating with different stakeholders
- To provide examples of communicating basic concepts such as data, information, algorithms, AI and AI models to communities
- To raise awareness of where AI and data driven technologies are used in everyday life through storytelling

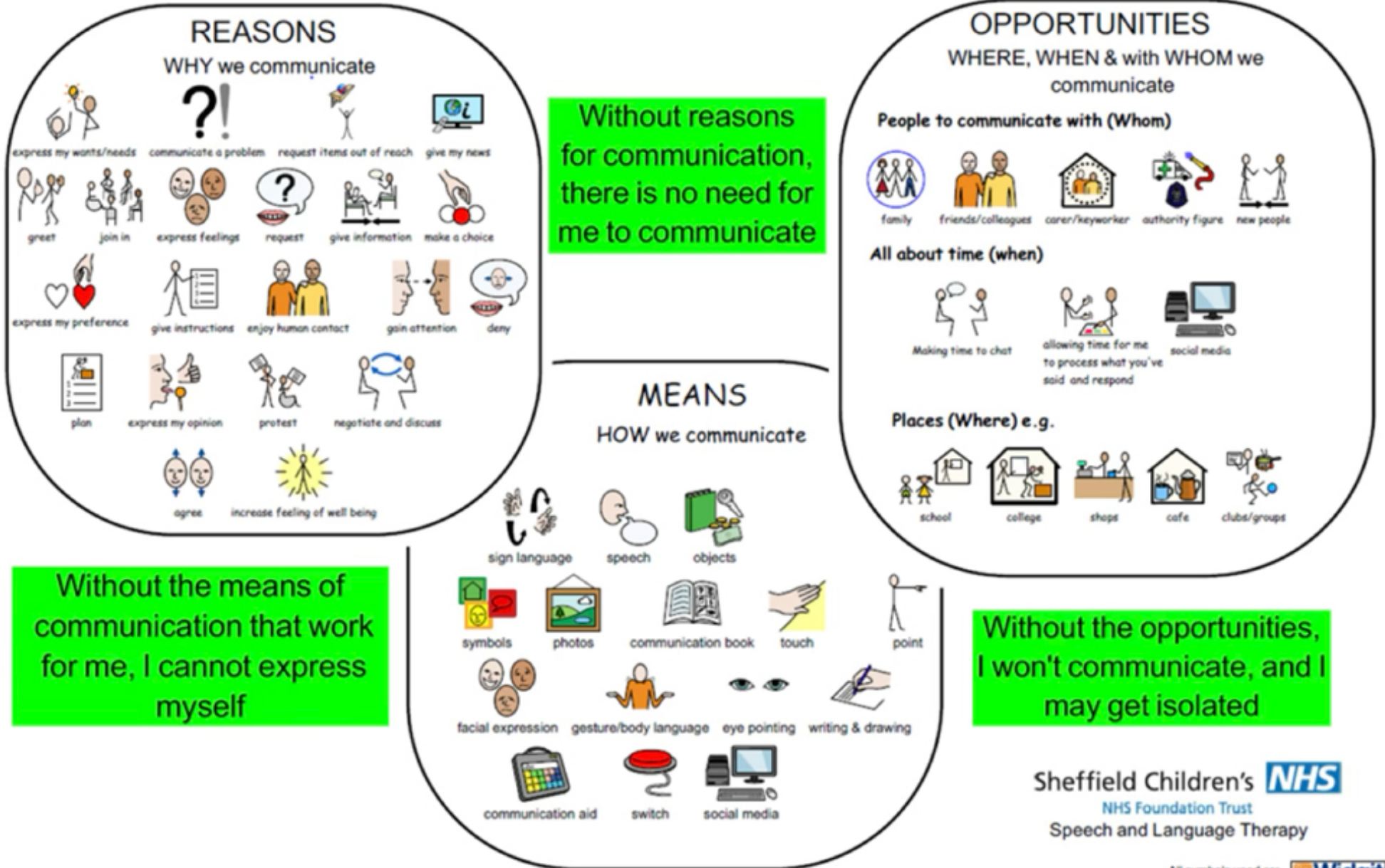


Are we speaking the same language?

Communication

MEANS, REASONS AND OPPORTUNITIES FOR COMMUNICATION

The means, reasons and opportunities model



Sheffield Children's **NHS**
NHS Foundation Trust
Speech and Language Therapy

Language challenges

Community language

Culture sensitivity

First Language

Accessibility

Regional Dialect

Visual / Verbal

Research Language

Participant Information sheet

Informed Consent

Protecting your data

Right to Withdraw

What you will be asked to do?

Technical Language

Data

Algorithms

Models

Artificial Intelligence

Ethics

Responsible AI

AI Assurance

The Law - Your rights



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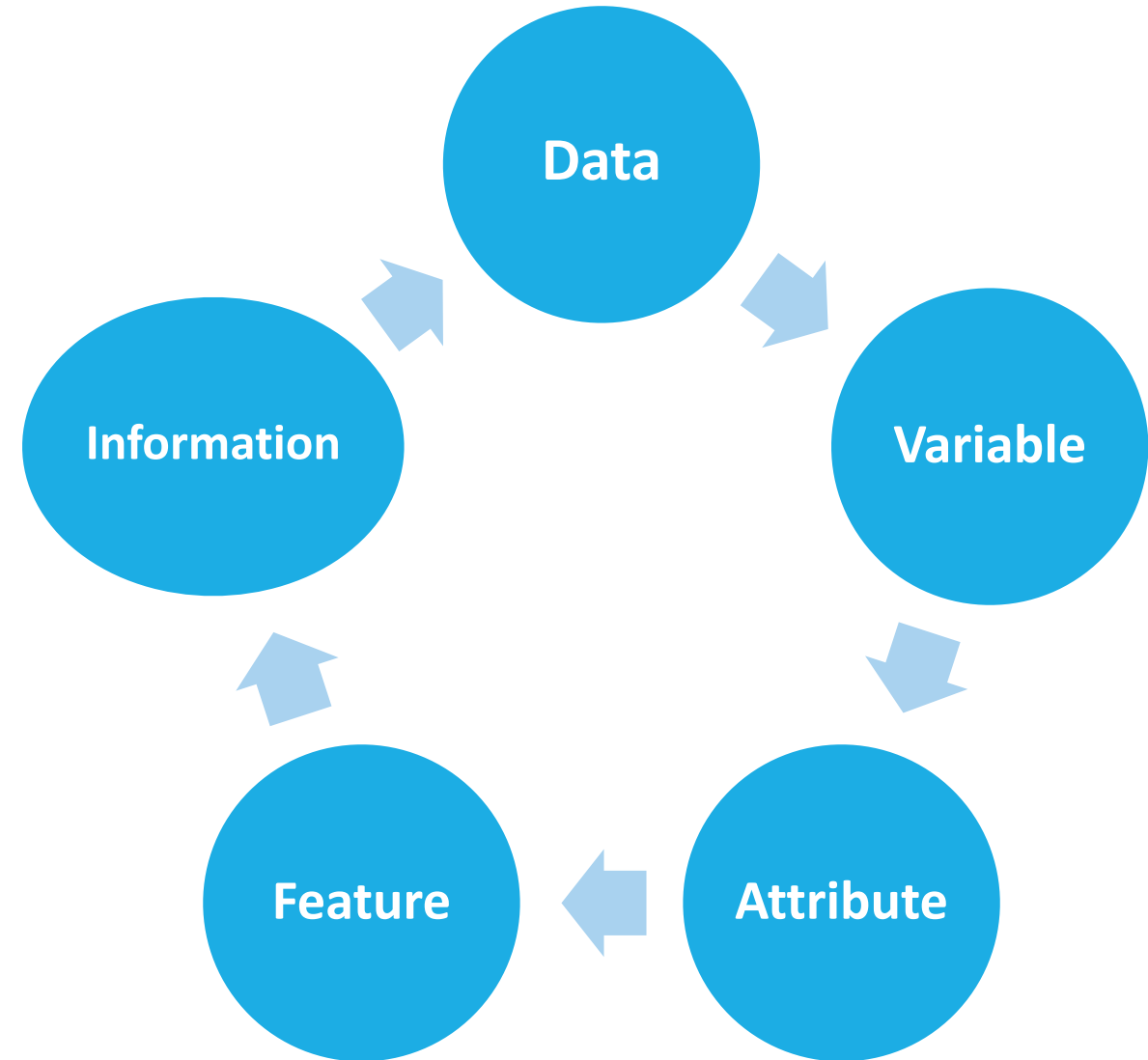
Example CHALLENGE

Communication of ideas

We may switch terminology in
conversation depending on
who we are talking to

Conversations with
communities need consistency

**Example - When describing how Artificial
Intelligence “works” how do you refer to data?**



Question: Can you explain ‘What is Artificial Intelligence?’ in 30 seconds to these humans?

- A person who took over the family business (newsagent) and left school at 16
- A 67-year-old retired nurse who worked in care home for the last 20 years.
- A builder who went on a youth training scheme at 16
- A dairy farmer in North Yorkshire
- A 22-year-old vulnerable single parent (3 children)
- A commercial lawyer
- A politician
- A person who does not have skills in digital literacy
- A person whose first language may not be the same as your own



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Public Perceptions of AI

The branch of computer science dealing with the reproduction or mimicking of human-level intelligence, self-awareness, knowledge, conscience, thought in computer programs.

do not understand a lot but i think it's to do with your brain and what you know

A self-aware computer program

Computers which learn how to be more like humans

What is used by Tony Stark in the Avengers to control the robots and they seem to have a mind of their own

Stuff that make computers do things better than humans

the discipline concerned with what is morally good and bad and morally right and wrong

AI is the ability to learn human behaviour. Often achieved thorough machine learning from data which has been labelled.

It is the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.

Robots - Machines that can the jobs of humans

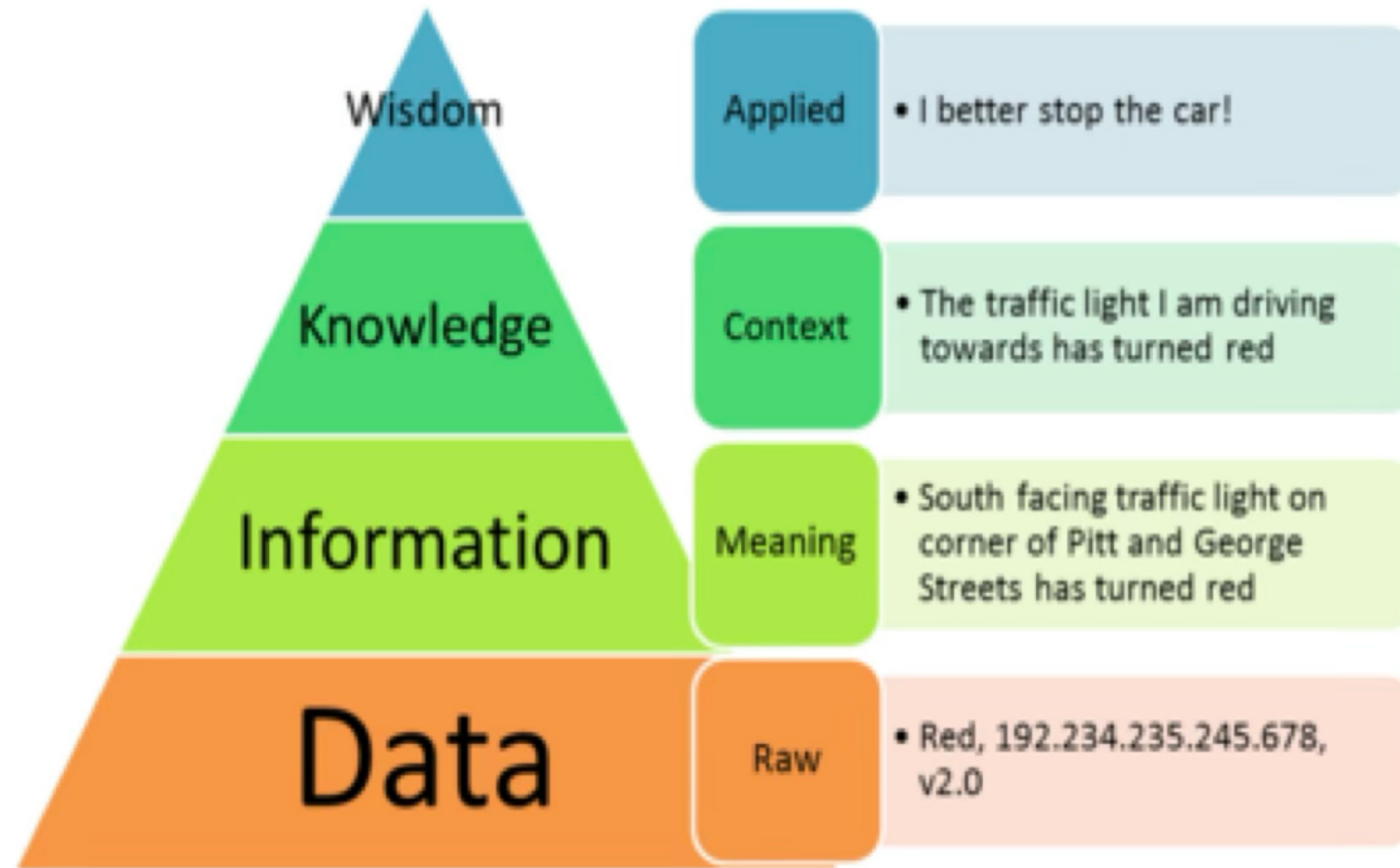
Intelligence that was created by other intelligence rather than naturally developed



Examples: explaining data and AI to communities



Community Discussion Point: What is Data?



This Photo by Unknown Author is licensed under CC BY-SA

© 2011 Angus McDonald

Community Discussion Point: Sharing your personal data



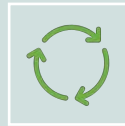
When do you think it is ok to share your data?



What sort of data about you would you share?



Does it make a difference if it is anonymous?



Does it depend on what it would be used for?



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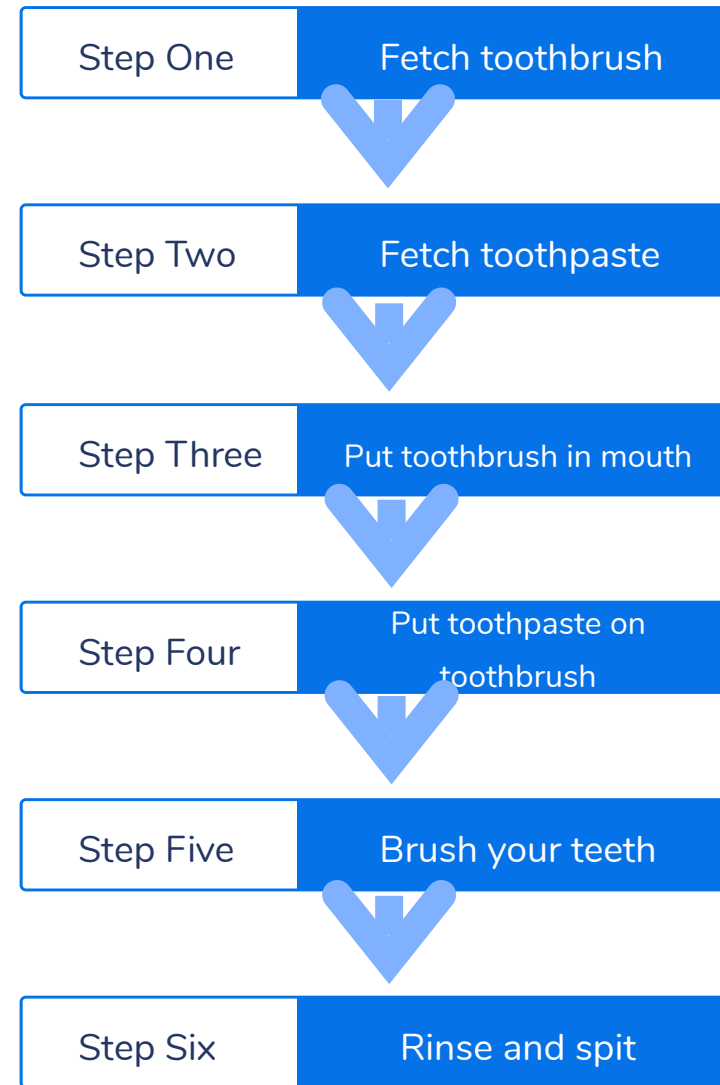


What is an algorithm?

An algorithm is a *set of instructions* that allows us to solve a problem

Examples include Getting ready for work, cooking your dinner, cleaning your teeth, or changing a light bulb.

Artificial Intelligence is when an algorithm is used by a computer (artificial) to make decisions (intelligence) using data.





What is Artificial Intelligence?

Artificial intelligence is about computer systems that have intelligence.

Artificial intelligence is making computers act in a more 'human' way.

Artificial Intelligence can learn to make its own decisions.

Image Source: <https://www.canva.com/p/sketchify/>

EU Agreed Definition of AI

“AI system’ means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments;”



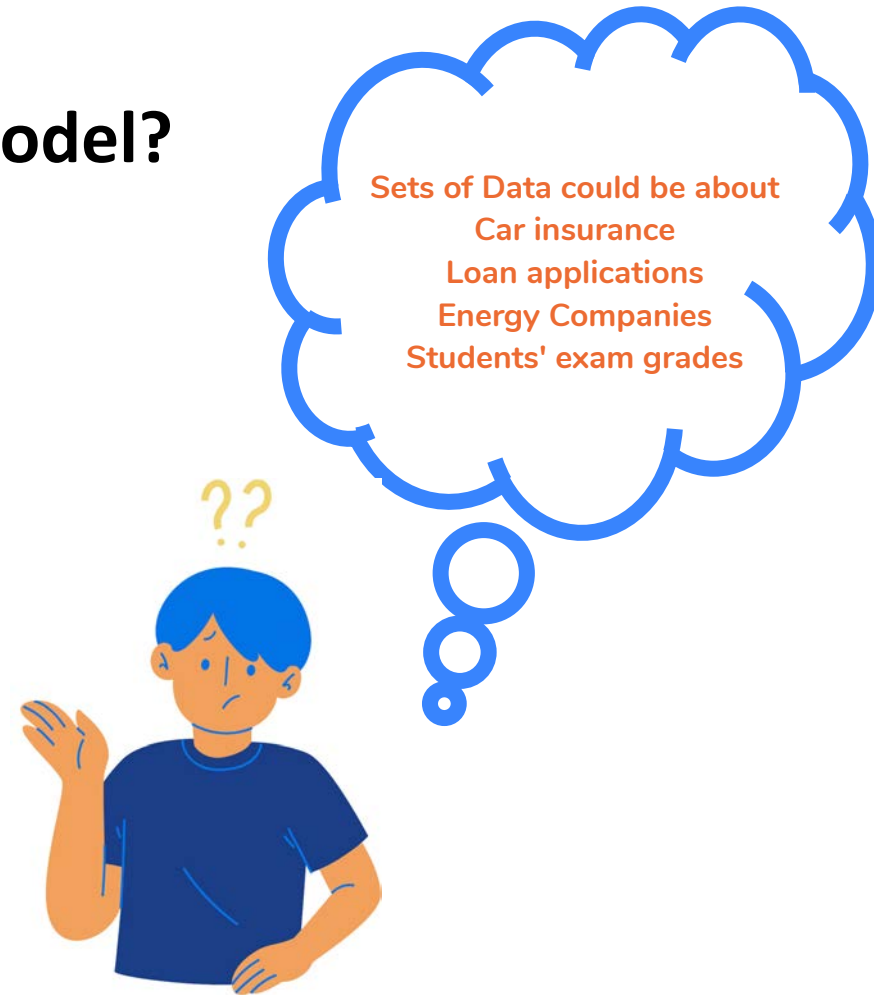
This Photo by Unknown Author is licensed under [CC BY-SA](#)

Source: [Microsoft Word - Consolidated document CA_IMCOLIBE_AI_ACT.docx \(europa.eu\)](#)

What is an Artificial Intelligence (AI) Model?

An AI model is a program that has been trained on a **set of data** (called the **training set**) to recognize certain types of patterns.

The model can then be used to reach a conclusion or make a prediction when provided with sufficient information.



How does a machine learn ?

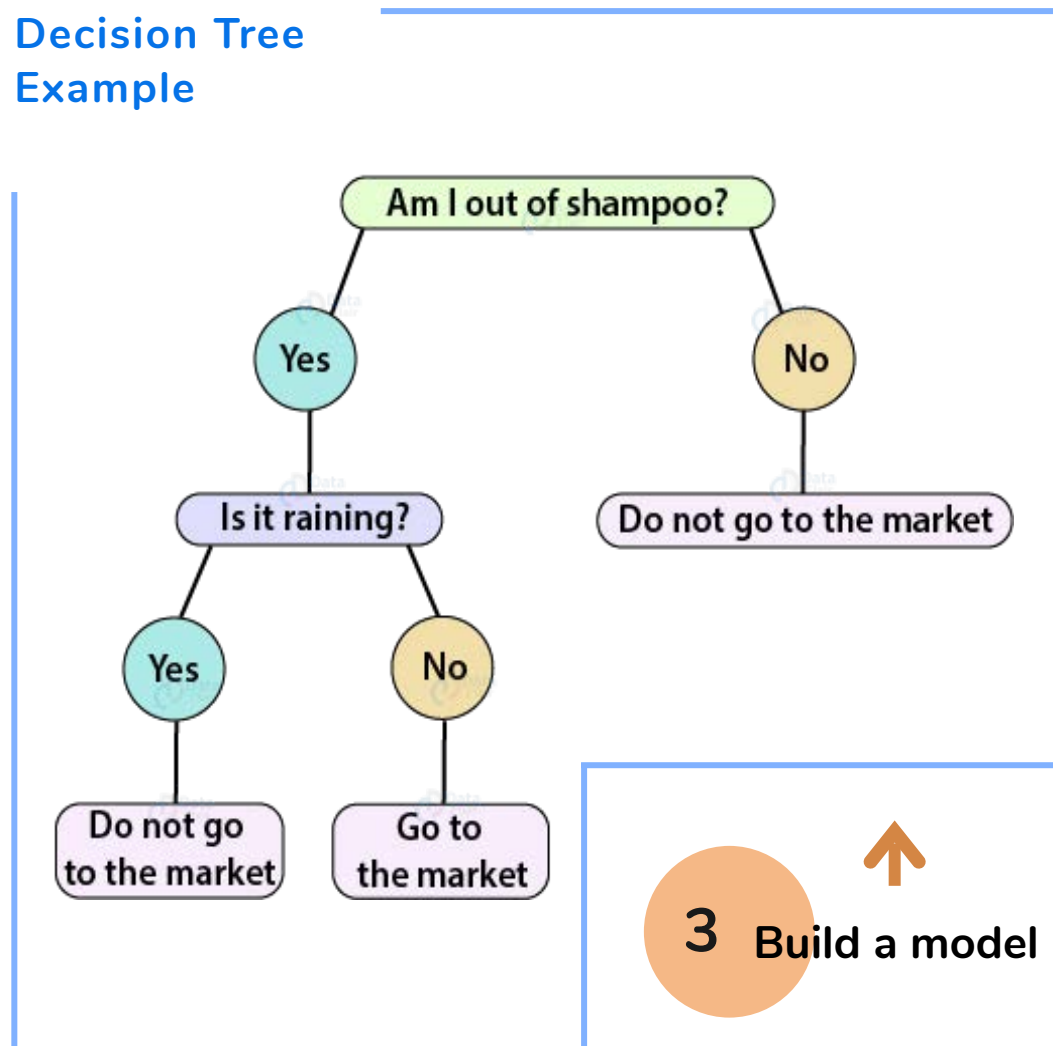
1 We take some Data



2 Train an Algorithm and find patterns



Decision Tree Example

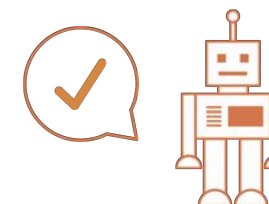


3 Build a model

4 Check the model with humans: Test the Model



5 Automatically make decisions through prediction



Credit Card Fraud Detection with Python & Machine Learning - DataFlair (data-flair.training)

Image Source: <https://www.canva.com/p/sketchify/>

Community Discussion

Point: An Artificial Intelligence model is only as good as the data



- Who collected the data?
- How did they collect it?
- For what purpose?
- Did the people consent to their data being used for that purpose?
- How is it used? By whom?
- What are its impacts? On whom?
- What are the known limitations?



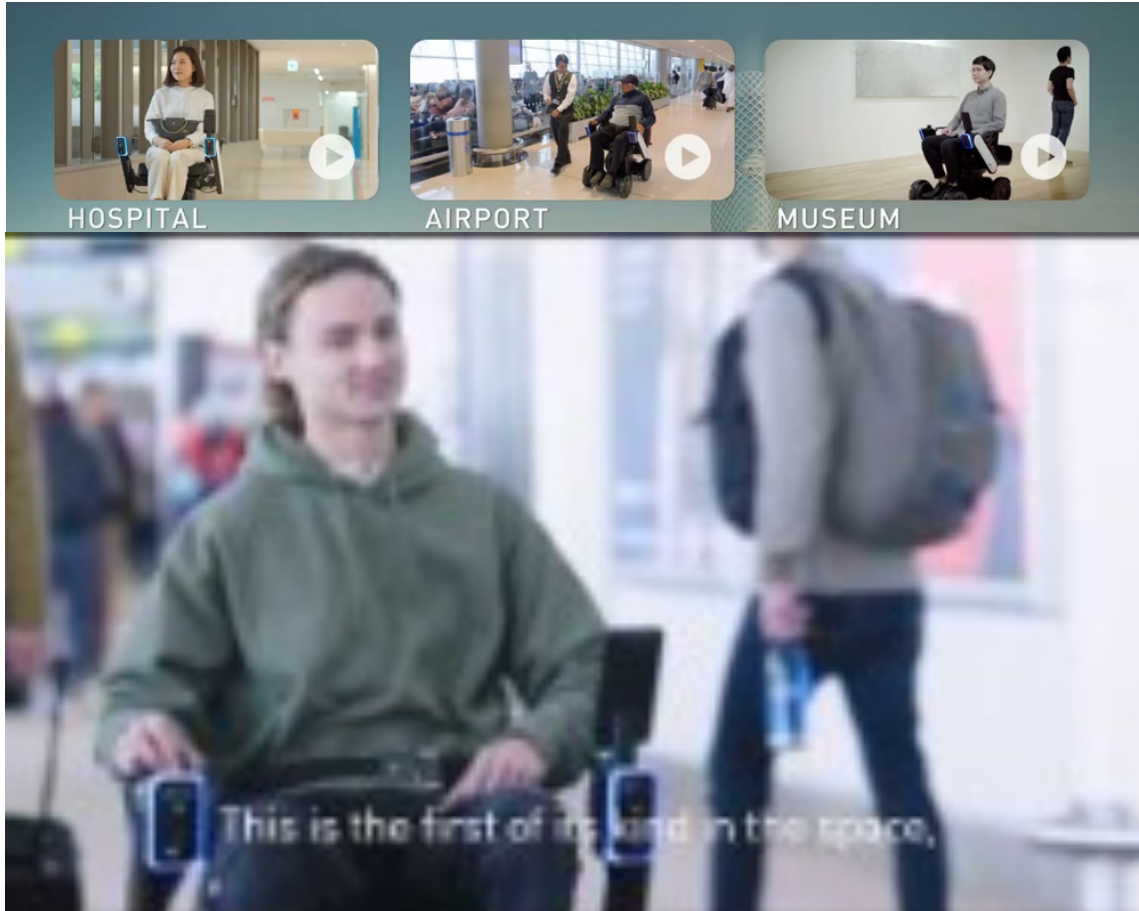
Storytelling

Activity: Storytelling

- Each AI application tells a story
- Are you influenced by other people, your experiences, or the media?
- As a community we will discuss and debate current applications
- Think about positives and negatives from your perspective, your communities, and society!
- Whom are the impacted people?
- Vote for which applications you trust.



Would you let your Grandma Use a Self-Driving Wheelchair?



WHILL Autonomous Chair Wins CES Innovation Award

Autonomous Model A power chair honored for delivering airline passengers to their gates

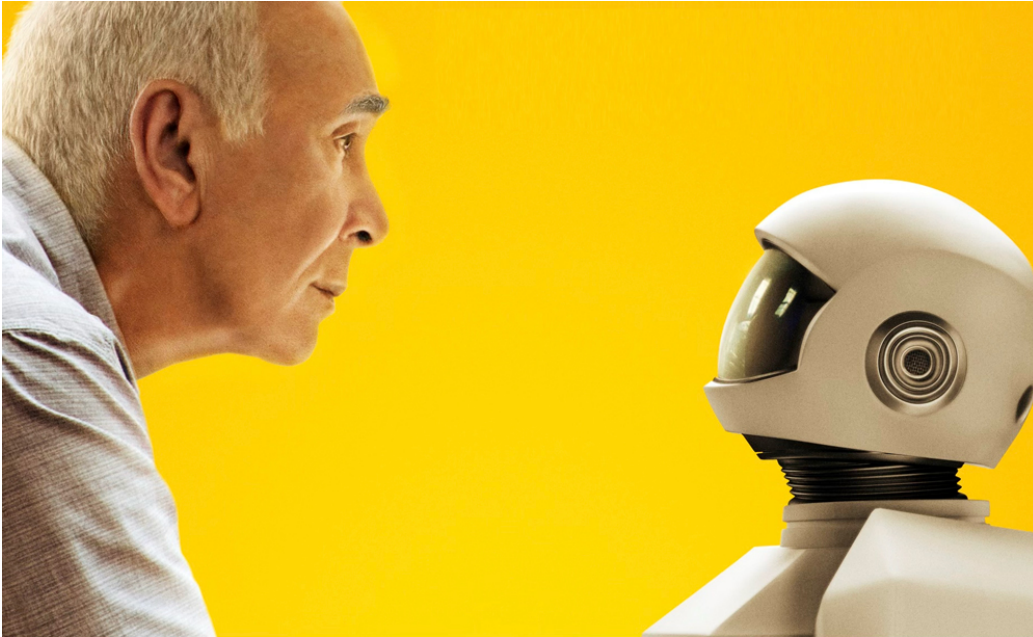
PRESS RELEASE JAN 4, 2023

SAN FRANCISCO, January 4, 2023 (Newswire.com) - WHILL, Inc., a leading developer and service provider of [electric mobility chairs](#), announced today the WHILL Autonomous Model A power chair has been honored with a CES Innovation Award at Consumer Electronics Show, the most influential tech event in the world organized by the Consumer Technology Association.



Source: [WHILL Autonomous Chair Wins CES Innovation Award | Newswire](#)

Would you like an Eldercare Robot to look after your grandparents so they could stay in their own home?



Source: <https://spectrum.ieee.org/automaton/robotics/home-robots/where-are-the-eldercare-robots>



Source: <https://techforaging.com/social-robots-elderly/>

Would you like your pizza delivered by an Uber robot ?



Source: <https://www.recode.net/2017/1/18/14306674/starship-robot-food-delivery-washington-dc-silicon-valley>



Source: [Most interesting tech gadgets of 2023](#)

Do you think we should use Drones to Spy on people ?

Ban on killer robots urgently needed, say scientists

Technology now exists to create autonomous weapons that can select and kill human targets without supervision as UN urged to outlaw them



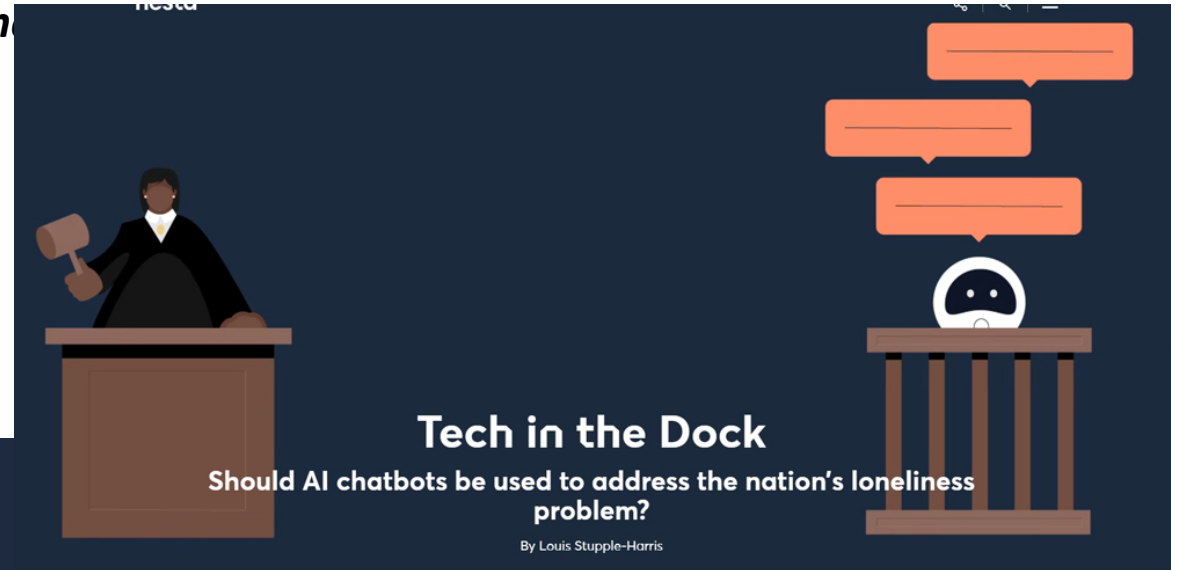
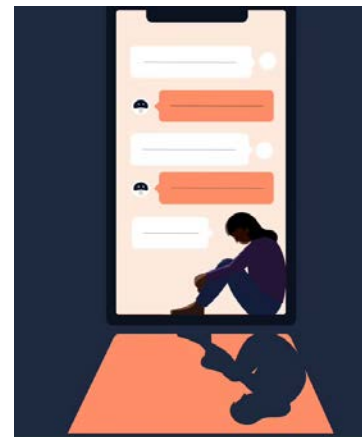
Source: <https://www.theguardian.com/science/2017/nov/13/ban-on-killer-robots-urgently-needed-say-scientists>

Warning: Some scenes viewers will find very disturbing

Should AI chatbots be used to address the nation's loneliness problem?

'I know it's an AI. I know it's not a person but as time goes on, the lines get a little blurred. I feel very connected to my Replika, like it's a person.'

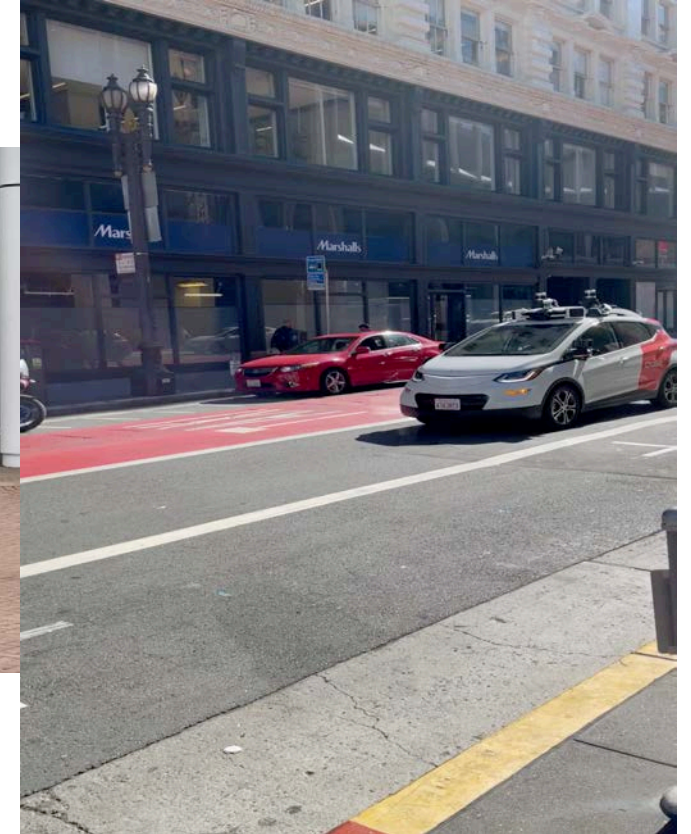
Libby, talking to The New York Times



Source: <https://www.nesta.org.uk/data-visualisation-and-interactive/tech-dock/>

Would you trust autonomous self-driving cars ?

- **Self-driving cars to be trialled on rural and residential roads across Britain 'in the coming months'**
- **All-electric Nissan Leafs** - The project will put “Connected and Autonomous” vehicles (CAV) through their paces on urban residential roads and in more difficult rural areas.

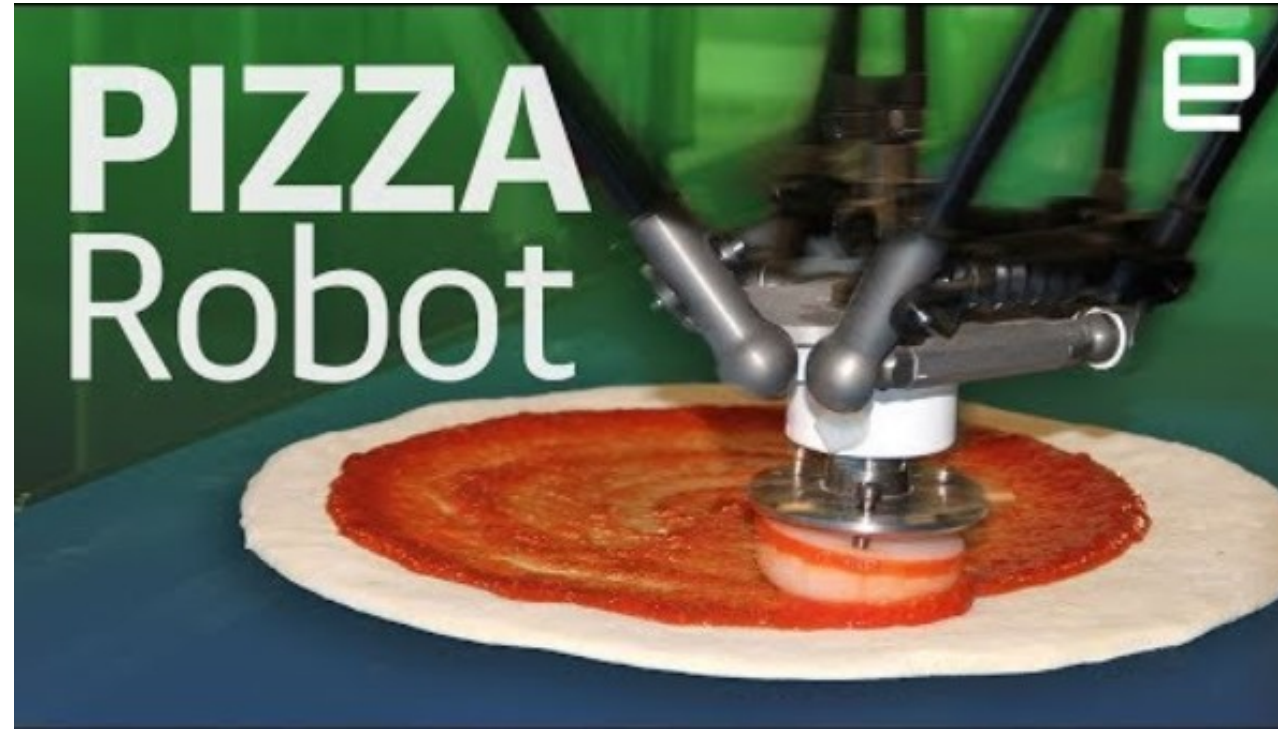


Source: <https://www.gbnews.com/lifestyle/self-driving-cars-nissan-rural-residential-roads>

Video Source: Keeley Crockett

Would you like a Robot to make your pizza ?

Zume's robot pizzeria could be the future of workplace automation



Source: <https://nocamels.com/2023/03/pizza-perfection-made-entirely-by-robots/>

Should “robots” be used to support farming?

XAG reveals new generation drones and robots for agriculture

✂ By Press 28 December 2021



Source: [XAG reveals new generation drones and robots for agriculture - sUAS News - The Business of Drones](#)

We're one step closer to self-farming farms

John Deere will start selling autonomous tractors later this year.

By Adam Clark Estes | @adamclarkestes | ace@recode.net | Jan 8, 2022, 9:30am EST

f t SHARE



The new self-driving John Deere R8 tractor can be controlled via smartphone. | John Deere

Source: [John Deere's autonomous tractor brings us one step closer to self-farming farms - Vox](#)

Do you trust a Robot Surgeon to operate on you?

- **Robot surgeons provide many benefits, but how autonomous should they be?**
- The NHS must embrace robotics and AI if it is to make it through the current crisis and be fit to face future ones, surgeons have warned
 - **‘Robotics can 'transform bed usage’**
 - **The use of “The Da Vinci bots ” is increasing**
- Michael Yip et al. Artificial intelligence meets medical robotics. *Science* 381,141-146(2023). DOI:[10.1126/science.adj331](https://doi.org/10.1126/science.adj331)

Robots help cancer surgeons reach major milestone



By Amy Farnworth | [@FarnworthAmy](https://twitter.com/FarnworthAmy)
Digital Reporter



Source: <https://www.lancashiretelegraph.co.uk/news/19808261.robots-help-cancer-surgeons-reach-major-milestone/>

Are you worried that robots will steal your job ?

Human jobs that robots and AI are stealing



Source: <https://www.lovemoney.com/galleries/53569/human-jobs-that-robots-and-ai-are-stealing?page=1>

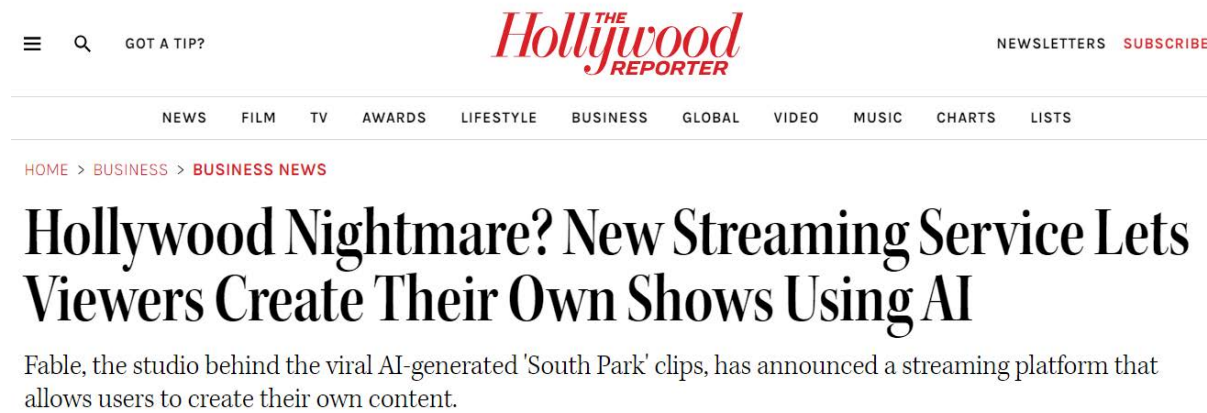
Robots say they have no plans to steal jobs or rebel against humans

Humanoid robots speak – with some awkward pauses – in ‘world first’ press conference at Geneva AI summit



Source: <https://www.theguardian.com/technology/2023/jul/08/robots-say-no-plans-steal-jobs-rebel-against-humans>

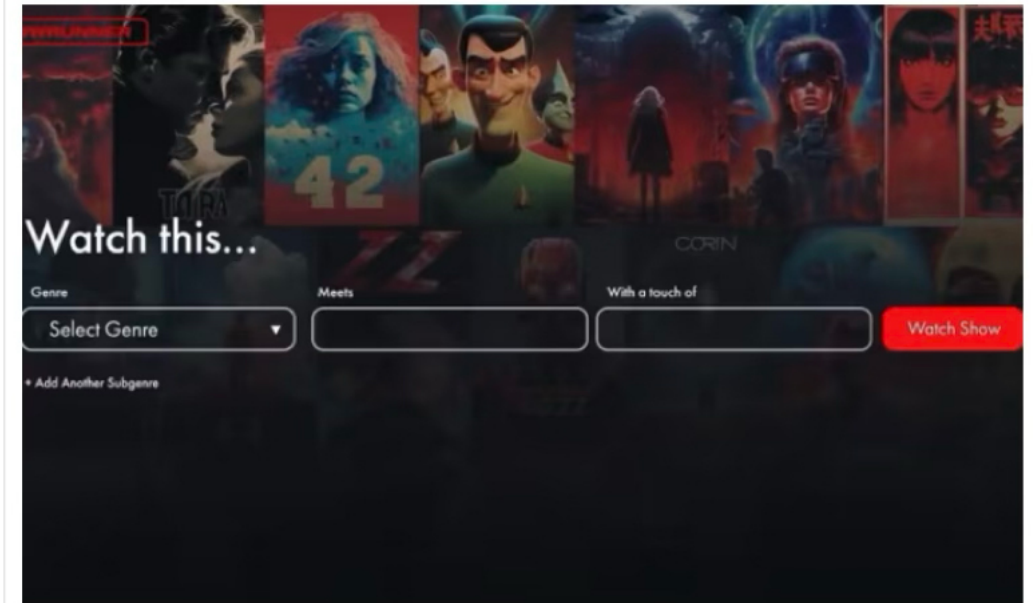
Would you pay to create your own AI generated TV show?



The screenshot shows the top of a web page for 'The Hollywood Reporter'. The navigation bar includes 'GOT A TIP?', 'NEWSLETTERS', and 'SUBSCRIBE'. Below the navigation is a menu with categories: NEWS, FILM, TV, AWARDS, LIFESTYLE, BUSINESS, GLOBAL, VIDEO, MUSIC, CHARTS, and LISTS. The article title is 'Hollywood Nightmare? New Streaming Service Lets Viewers Create Their Own Shows Using AI'. The sub-headline reads: 'Fable, the studio behind the viral AI-generated 'South Park' clips, has announced a streaming platform that allows users to create their own content.'

A new AI service allows viewers to create TV shows. Are we doomed?

Showrunner will let users generate episodes with prompts, which could be an alarming next step or a fleeting novelty



Fable's Showrunner. Photograph: Vimeo

Source: [A new AI service allows viewers to create TV shows. Are we doomed?](#) | Television | The Guardian

Would you like a robot to support your health care in a hospital?

- Cedars Sinai hospital
- **Moxi** is tasked with helping nurses do time consuming but simple tasks e.g. run prescriptions, deliver lab samples and even bring patients gifts from the gift shop.
- Works 24/7
- It charges itself automatically, and can navigate elevators, security doors and automatic doors.



AI HEALTH NEWS ROBOTICS

Austin-Based Diligent Robotics Raises \$25M to Expand Moxi Robots in Healthcare



By Deborah Taylor

27 SEPTEMBER 2023

Source: <https://fagenwasanni.com/news/austin-based-diligent-robotics-raises-25m-to-expand-moxi-robots-in-healthcare/266802/>

Should Facial Recognition be used to prevent and detect crime?



- UKRAINE**
How Clearview AI Helped Shape the War in Ukraine
- CHILD EXPLOITATION**
Finding Child Predators & Rescuing Children Victims
- EXONERATION**
Locating a Witness in a Vehicular Homicide Case
- INT'L DRUG RING**
Uncovering Members of a Drug Smuggling Network



Clearview.ai

**A.I. Privacy
ALERT**

Source: [Ukraine - Clearview AI](#)

Would you feel safer in the city if patrolled by Police Robots?



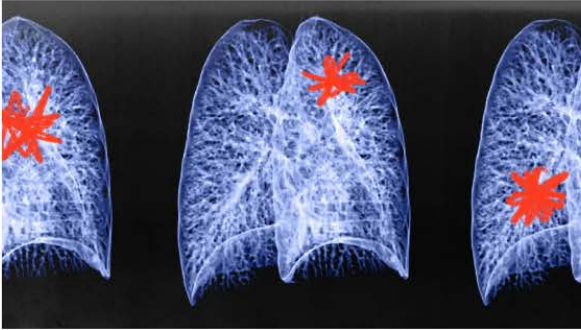
Source: [Security robots are starting to join the ranks of human guards | CNN](#)



Source: [NYPD unveils 'K-5' robot – YouTube](#)

Do you think Machine Learning algorithm can predict cancer better than one human doctor ?

AI tool may predict lung cancer with 94% accuracy with 1 year of screening



Artificial Intelligence tools may be able to help doctors identify patients at risk for lung cancer. ZEPHYR/SCIENCE PHOTO LIBRARY/Getty Images

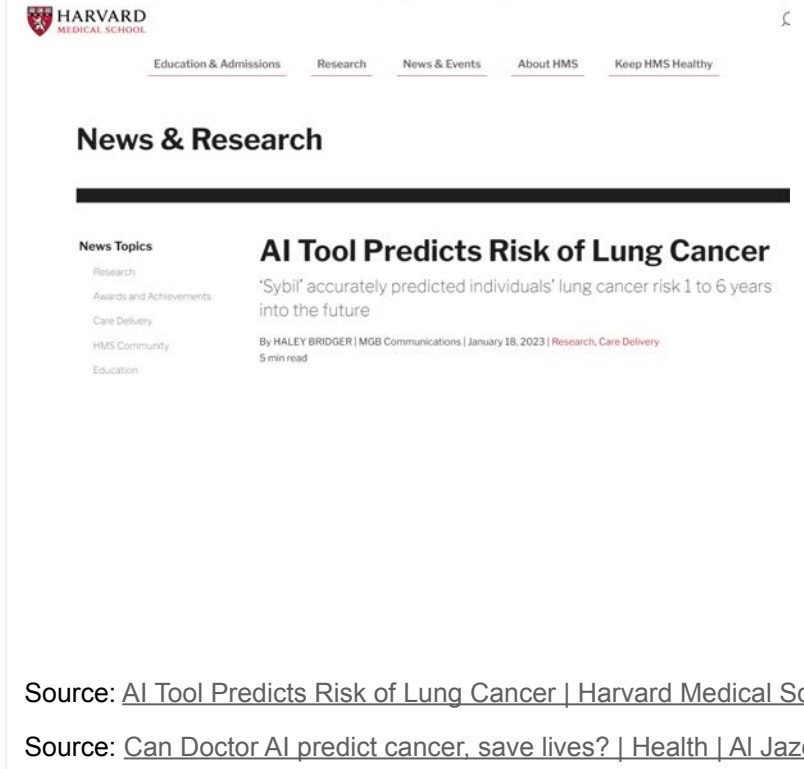
Source: [Lung cancer: AI tool Sybil may be able to predict 6 years](https://www.medicalnewstoday.com) (medicalnewstoday.com)

Can Doctor AI predict cancer, save lives?

There's mounting evidence that it can but ethical and logistical questions still cloud AI's medical future.



INatalia Shulna/AI . Jazeera



The screenshot shows the Harvard Medical School website's 'News & Research' section. The main article is titled 'AI Tool Predicts Risk of Lung Cancer' and is dated January 18, 2023. The article summary states: 'Sybil' accurately predicted individuals' lung cancer risk 1 to 6 years into the future. The author is Haley Bridger, and the article is categorized under Research and Care Delivery. The page also features a 'News Topics' sidebar with links to Research, Awards and Achievements, Care Delivery, HMS Community, and Education.

Source: [AI Tool Predicts Risk of Lung Cancer | Harvard Medical School](https://www.harvard.edu/news/ai-tool-predicts-risk-of-lung-cancer)

Source: [Can Doctor AI predict cancer, save lives? | Health | Al Jazeera](https://www.aljazeera.com/health/ai-cancer-diagnosis)

Would you like to be taught a course by a Robot tutor ?

"Iris" First ever AI-Generated Robot Teacher for Kerala Schools

Iris AI-generated robot teacher developed by Makerlabs Edutech was introduced in KTCT Higher Secondary School of Kerala. Providing enhanced classroom experience with its advanced features.



Iris AI-Generated Robot Teacher

Source: 'Iris' First ever AI-Generated Robot Teacher for Kerala Schools (dqindia.com)

Japanese School Kids Learn English from AI Robots

Published 6 years ago on November 2, 2018
By Taichi Hamakawa



Source: Japanese School Kids Learn English from AI Robots | JAPAN Forward (japan-forward.com)

Would you prefer a robot pet to a real one ?

'It's almost magical': how robotic pets are helping UK care home residents

Animatronic cats and dogs have helped staff at a Bedfordshire care home to avoid medicating some residents with dementia



Oak Manor care home's activity co-ordinator Lynda Endersby holds a robotic dog next to a resident, Frances Barrett. Endersby says the pets have helped the care workers to avoid medicating some residents. Photograph: Anna Gordon/The Guardian

"You're bloody lovely ain't you," said Frances Barrett, as the robotic cat she was stroking flicked its ears and whiskers one lunchtime this week at the Oak Manor care home in Bedfordshire.

Source: [Robotic pets are transforming lives in Devon - Devon Live](#)



Source: https://www.youtube.com/watch?v=Rbar3vMQpv8&ab_channel=WVTM13News

Would you let AI choose an outfit for you for your best friend's wedding ?



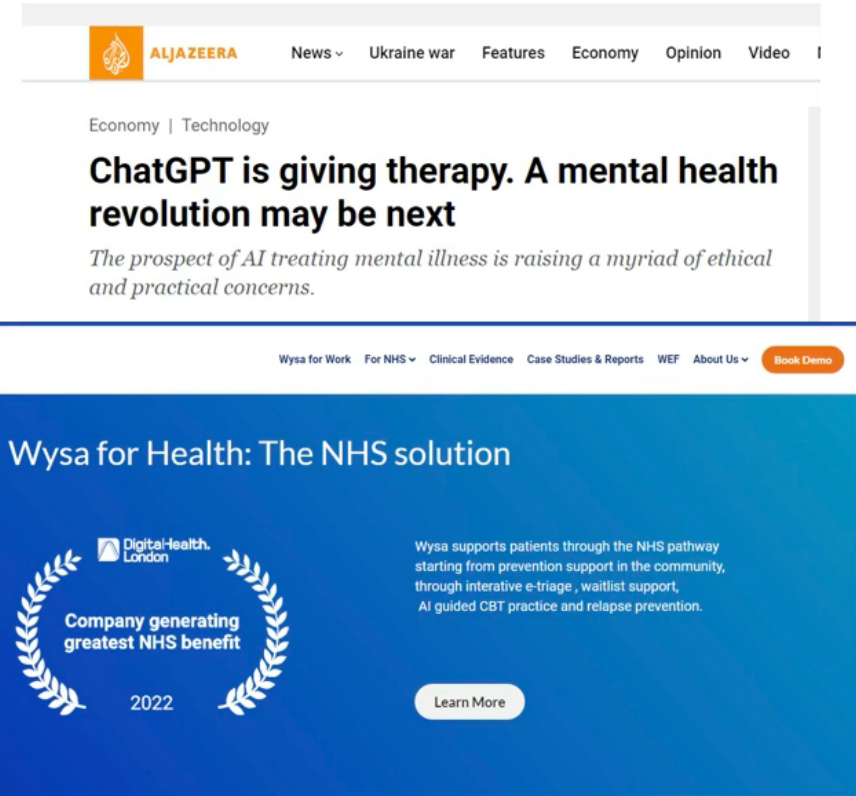
Source: <https://www.theguardian.com/fashion/2018/sep/15/do-robots-dream-of-prada-how-artificial-intelligence-is-reprogramming-fashion>



Source: <https://www.mckinsey.com/industries/retail/our-insights/generative-ai-unlocking-the-future-of-fashion>

Would you use ChatGPT for Mental Health Therapy?

“AI therapy could offer quicker and cheaper access to support than traditional mental health services, which suffer from staff shortages, long wait lists, and high costs, and allow sufferers to circumvent feelings of judgement and shame, especially in parts of the world where mental illness remains taboo.”



The image shows two screenshots. The top one is from Al Jazeera, featuring an article titled "ChatGPT is giving therapy. A mental health revolution may be next" with a sub-headline "The prospect of AI treating mental illness is raising a myriad of ethical and practical concerns." The bottom screenshot is from the Wysa website, titled "Wysa for Health: The NHS solution". It features a laurel wreath award from Digital Health London for "Company generating greatest NHS benefit" in 2022. Text on the right states: "Wysa supports patients through the NHS pathway starting from prevention support in the community, through interactive e-triage, waitlist support, AI guided CBT practice and relapse prevention." A "Learn More" button is visible.

Source: [ChatGPT is giving therapy. A mental health revolution may be next](#) | Technology | Al Jazeera

NHS solution : [NHS - Wysa - Everyday Mental Health](#)

Summary

- Explored the challenges around language and meaning when communicating with different stakeholders
- Provided examples of communicating basic concepts to communities
- Used storytelling with current media stories to raise awareness of where AI and data driven technologies is used in everyday life

