

IMMUNE² INFODEMIC TOOL CARDS:

Boost your immunity to misinformation and disinformation with critical thinking, media literacy, and digital literacy.

immune2infodemic.eu



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These cards will provide you with 31 tools, including 8 critical thinking tools, 10 media literacy tools and 13 digital literacy tools. They will help you to recognise, evaluate, and build up your immunity to misinformation and disinformation you see online.

HOW to use these tools?

When you see something confusing, surprising, that evokes a strong emotion, or seems like it is trying to persuade you, pause for a moment and take a closer look at what is happening before you respond. Then choose a tool to analyse the message. Only after careful consideration make up your mind about this piece of information.

WHEN to use the tools?

Use **critical thinking** tools in your daily life applying to all kinds of information you encounter

Use **media literacy** tools when interacting with all media content: texts, images, videos, audio; both printed and online, traditional and social media.

Use **digital literacy** tools when managing digital footprint, privacy and algorithm-controlled content visibility: tracking cookies, personal data safety, social media streams and, for example, Google search results.



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CRITICAL THINKING: TOOLS



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What is Critical Thinking?

The ability to analyse, evaluate and reconstruct one's own knowledge: self-correcting, self-assessing and self-monitoring thinking.

How can you use these tools?

When confronted with something that evokes emotions or a strong reaction, pause for a moment and take a closer look at what is happening before you respond. Then choose a tool to analyse the message.

Tools

- CT1 - Socratic Questioning
- CT2 - Mind mapping
- CT3 - Argument mapping
- CT4 - Problem and Solution Map
- CT5 - Cause and Effect Diagram
- CT6 - Questioning Child - the 5 Why's
- CT7 - Identifying Bias
- CT8 - Talking to Conspiracy Believers



SOCRATIC QUESTIONING

Ask probing questions to explore ideas deeply.

When?

reasoning/argumentation

How?



- 1** Ask *probing questions*.
- 2** Explore *assumptions*.
- 3** Examine *reasons*.
- 4** Evaluate *evidence*.
- 5** Consider *implications*.
- 6** Explore *alternative viewpoints*.



Level: ★★☆



1

Probing questions

What would be an example?

What other information do we need?

2

Assumption questions

How can you verify or disapprove that assumption?

3

Examine Evaluate Reason

Why do you say that?

How does this relate to our discussion?

4

Evaluate evidence

What was the point of this question?

Why do you think this question is asked?

5

Implication and consequences questions

What are the consequences of that assumption?

6

Viewpoint and perspective questions

What would be an alternative?

What is another way to look at it?





MIND MAPPING

Visually organizes thoughts, explores idea relationships, identifies key points, and generates insights.

When?

logic, reasoning/argumentation

How?



- 1** Begin with a *large blank sheet*
- 2** Center and highlight the *main topic*
- 3** Draw bright, curved *branches for key ideas*
- 4** Label branches with *one-word identifiers*
- 5** *Number branches* clockwise for sequence
- 6** Add *sub-branches* for clarification
- 7** *Use symbols* to emphasize importance



Level: ★★ ★



1

KEY IDEA

- Add
- Sub-branches
- For
- Clarification

2

KEY IDEA

- Add
- Sub-branches
- For
- Clarification



**CENTER
AND
HIGHLIGHT
THE MAIN
TOPIC**

4

KEY IDEA

- Add
- Sub-branches
- For
- Clarification

3

KEY IDEA

- Add
- Sub-branches
- For
- Clarification



ARGUMENT MAPPING

Argument mapping visually clarifies and evaluates reasoning structures.

When?

reasoning/argumentation

How?



- 1** Choose a text or statement.
- 2** Read and identify the **conclusion**
- 3** **Reconstruct** the inferential structure by defining the **reasonal arguments and/or facts** for coming to the conclusion.
- 4** **Analyse** if reasons (facts & arguments) support the conclusion (check fallacies)
- 5** Have **fun**, make it interesting, like using earther arguments!



Level: ★★★



CONCLUSION



Argument



Fact 1

Fact 2



Argument



Fact 1

Fact 2





PROBLEM AND SOLUTION MAP

A problem solution map analyzes data to offer a solution to a problem.

When?

Problem solving and Informed Decision making

How?

- 1 Define Problem:** Identify and articulate the lighting claims problem.
- 2 Gather Data:** Collect relevant data related to the problem.
- 3 Logical Analysis:** Analyze the gathered data logically.
- 4 Map Solution:** Use the analysis to map out a solution to the problem.



Level: ★★ ★



INFLUENCE

Claims contradict established scientific knowledge

INFLUENCE

Emotional language and exaggerated claims

PROBLEM

News article claims that a new medication can cure cancer within a week

SOLUTION

- Evaluate the source's credibility.
- Check for bias in the article.
- Verify the information with other sources.
- Consider the logic of the arguments.

EFFECT

Public confusion and potential harm



CAUSE AND EFFECT DIAGRAM

Cause-effect diagrams (e.g., fishbone/Ishikawa) visually organize potential problem causes, showing relationships. Tree diagrams also depict cause-effect links.

When?

Problem-solving

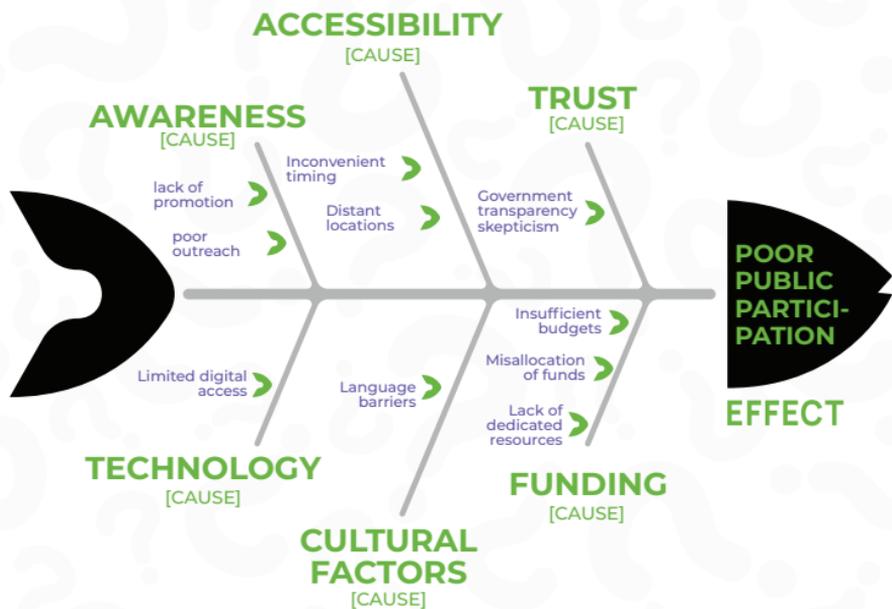
How?



- 1** Identify the problem.
- 2** List why it happens.
- 3** Draw a line and add branches for each reason.
- 4** Break down each branch into details.
- 5** Connect related causes with arrows.
- 6** Focus on key factors.
- 7** Find solutions for top causes.



Level: ★★☆☆



*purple indicates the sub-causes on the scheme



QUESTIONING CHILD - THE “5 WHYS” TECHNIQUE

Examine the underlying assumptions and motivations behind a statement

When?
Reasoning

How? 

For any claim you encounter, ask “Why?” five times to dig deeper into its validity and origins.



Level: ★★☆☆



CLAIM

The government is raising taxes because they want more money

WHY

...do they need more revenue?

To fund public services and programs.

WHY

is the government raising taxes?

To increase government revenue

WHY

do they need to fund these services and programs?

To address societal needs and improve the quality of life for citizens.

WHY

...are these needs increasing?

Due to factors like population growth, aging populations, and technological advancements

WHY

...are these factors affecting government spending?

Because they require additional resources to maintain existing services and implement new initiatives.



IDENTIFYING BIAS

Use these questions to identify your bias. Remember, everyone has bias in one way or another. Being aware of it doesn't mean you would automatically overcome it, but it is the first step to making better informed decisions.

Here, we focus on these 5 types of bias:

- 1 Overconfidence bias**
- 2 Self Serving Bias**
- 3 Framing**
- 4 Anchoring effect**
- 5 Confirmation Bias**



Level: ★★☆☆



1 Do I overestimate my understanding of news or social media, even when it's confusing?

YES → **Overconfidence Bias**

NO

2 Am I more likely to remember information that agrees with me than information that challenges me?

YES → **Self Serving Bias**

NO

3 Could the same information be presented in a different way that would lead to a different interpretation or conclusion?

YES → **Framing Effect**

NO

4 Would my judgment be different if I ignored the initial reference point?

YES → **Anchoring Effect**

NO

5 Do I only look for information that supports my beliefs, and ignore facts that disagree?

YES → **Confirmation Bias**

NO



TALKING TO CONSPIRACY BELIEVERS

How?

- 1** Encourage *open debate* and self-reflection.
- 2** Engage trusted former *believers*.
- 3** Utilize *diverse sources*.
- 4** Show *empathy*.
- 5** Proceed step by step, emphasizing simple *facts and logic*.
- 6** Avoid overwhelming with pressure; allow *time* for processing.



Level: ★★☆☆





MEDIA LITERACY: TOOLS

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What is Media Literacy?

The ability to seek reliable information from various media sources and evaluate critically the reliability of encountered media content.

How can you use these tools?

If you are confronted with something that evokes emotions or a strong reaction, pause for a moment and take a closer look at what is happening before you respond. Then choose a tool to analyse the message.

Tools

- MIL1** - Stop - Think - Check
- MIL2**- Media Diary
- MIL3**- Look behind a publication
- MIL4**- Separate facts from opinions
- MIL5**- Check with 3 questions
- MIL6**- Recognize different media types
- MIL7**- Identify a reliable journalist
- MIL8**- Identify a fact-checker
- MIL9**- Evaluate scientific claims
- MIL10**- List and follow reliable sources



STOP - THINK- CHECK

Rule-of-thumb for reacting to suspicious or emotion-provoking media content

When?

When media provokes strong emotions or arouses suspicions

How?



- 1 Stop.** If a piece of content (claim, image, video., article...) causes a strong emotional response, stop. Disinformation lives out of strong emotions.
- 2 Think.** Evaluate – e.g. what motives are behind? Use your Critical Thinking skills, or use the “3 questions” (Tool 5)
- 3 Check.** Check credibility of the source and what other, independent sources say on the matter.



Level: ★★☆☆





MEDIA DIARY

Keep track of your daily media exposure for a while to become more aware of its general influence on you

When?

Whenever, for a week

How?

- 1** *Open a document* for gathering daily reflections on media exposure.
- 2** *Write down* every day what media you have been exposed to, for how long, and what emotions did it evoke.
- 3** At the end of the week *review* your diary and think carefully, how your daily media exposure impacts you in the bigger scheme of things. Is it good? Bad? Both?



Level: ★★ ★



- What media?
- How much/long?
- Why?
- Emotional effects?



LOOK BEHIND A PUBLICATION

Check who is responsible for the media content – obscuring the creator is a disinformation red flag.

When?

Always with unfamiliar media content

How?



- 1** *Look for contact details* and names. Can you find any?
- 2** *Do a web search on the source / publication.* What other sources tell you about the publisher / content creator?
- 3** Evaluate the tone of the content. Is it *neutral* or *emotionally biased* and attempting to persuade?



Level: ★★☆☆





SEPARATE FACTS FROM OPINIONS

Both are present in media contents, and are easily confused with one another. Learn to distinguish between them.

When?

Claims, arguments

How?

- 1** **Facts** are neutral statements about matters that can be backed by solid, undisputable evidence
- 2** **Opinions** are personal viewpoints, interpretations, intuitions and subjective preferences that can be disputed.
- 3** **Facts exist independently of opinions;** they are not matters of preference or viewpoint.



Level: ★★☆☆



Facts:

- Verifiable
- Evidence-based
- Independent of preference

Opinions:

- Unverifiable
- Open to interpretation
- Subjective
- Disputable





CHECK WITH THE 3 QUESTIONS

Three powerful questions can help to evaluate the reliability of claims present in media

When?

Claims, arguments

How?

- 1** **Who** is behind the claim? Is it clear or somehow obscured?
- 2** **What evidence** is presented in support of the claims? By what sources?
- 3** **What do other (independent) sources** say about the claim? Do they support it, or are they against it?



Level: ★ ★ ★



Check the publisher



Check the evidence



Check other sources





RECOGNIZE MEDIA TYPES

Be aware that there are numerous different types of media. Can you identify the type of media?

When?

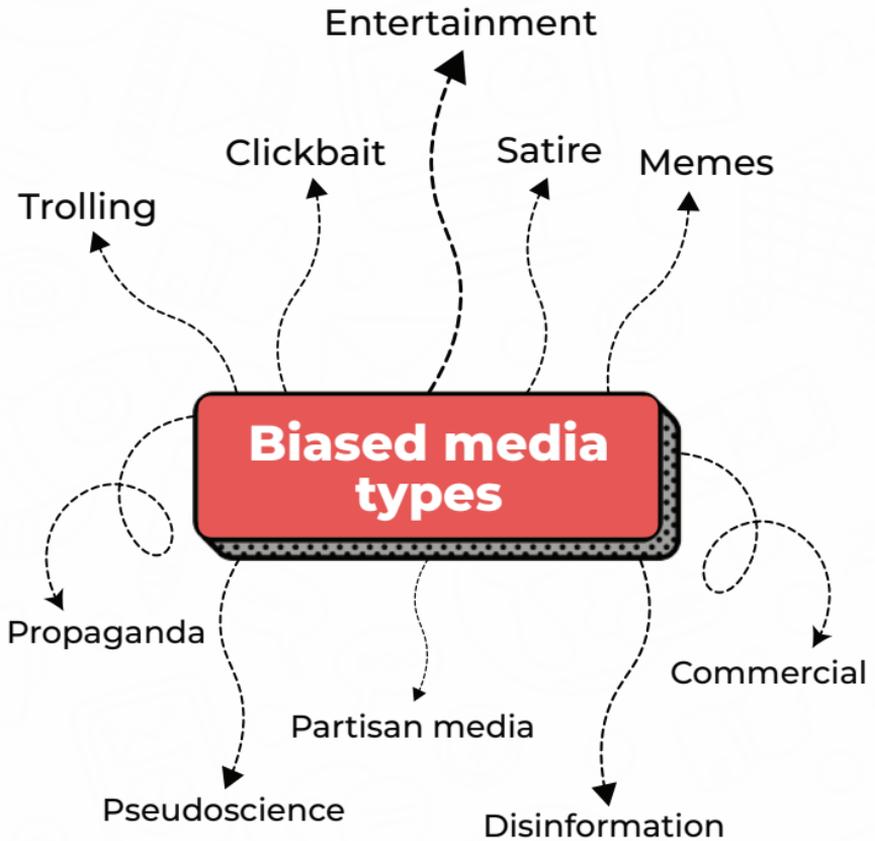
Media publication, social media

How?

- 1** *What is the motive* behind the publication: to inform, to persuade, to entertain, to disrupt, or to clickbait?
- 2** *What kind of policies* (e.g., content moderation) are in place to **ensure** its veracity?
- 3** *Do the publishers* or platform owners **take responsibility** for the publications and their consequences?
- 4** Is there an **identifiable bias** (partisan, demographic, negative)?



Level: ★★☆☆





IDENTIFY A RELIABLE JOURNALIST

A reliable journalist is committed to seeking and reporting the truth. Can you identify one?

When?

News media, journalism

How?

- 1** Professional journalism aims to **minimize harm**. Are they compassionate? Do they represent things and people objectively and neutrally?
- 2** An ethical journalist reports **independently of media ownership biases**. Who owns the media? Is it recognized as a quality news source?
- 3** Professional journalists are **accountable and transparent**. Does the newspaper correct mistakes? Is it open to criticism? Does it disclose its journalistic choices?



Level: ★★☆☆



**Neutrality, objectivity,
fairness and
harm-minimizing**



**Independence and
commitment to truth**



**Accountability and
transparency**



IDENTIFY A FACT-CHECKER

Fact-checkers are professional journalists who work to keep media accountable and reliable. How do you know one?

When?

News media, social media

How?



Ask if the fact-checkers are committed to:

- 1 Non-partisanship and fairness
- 2 Standards and transparency of sources
- 3 Transparency of funding and organisation
- 4 Standards and transparency of methodology
- 5 Open and honest corrections policy

An **accountable and professional fact-checking organization is open** about all of these.



Level: ★★☆☆





EVALUATE SCIENTIFIC CLAIMS

Often scientific claims are presented in media in an inflated or misleading manner. To evaluate them, you can use a decision tree method.

When?

Scientific claims in media

How?



A decision tree is a systematic, almost algorithmic way to approach complex problems. Simply proceed from one decision to another.

Ask yourself:

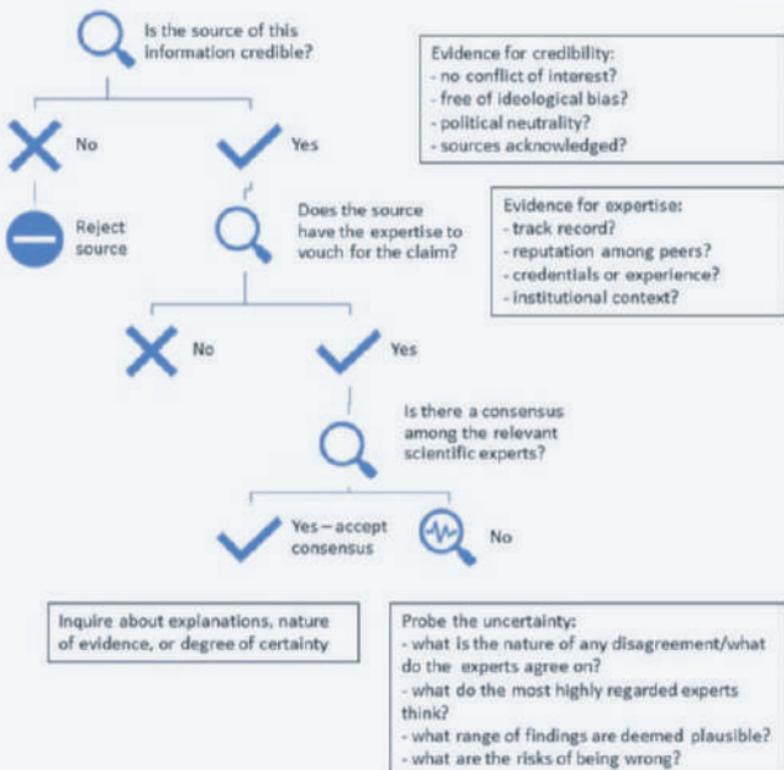
- 1** *Is the source* of this information **credible**?
- 2** *Does the source* have the **expertise** to vouch for the claim?
- 3** Is there a **consensus among** the relevant **scientific experts**?



Level: ★★ ★



A decision tree for evaluating scientific information





LIST & FOLLOW RELIABLE SOURCES

It's better to focus on quality sources and media than waste time and energy trying to outguess everything online.

When?

News media, social media, authorities

How?

- 1** **Make a list** of news sources, media outlets and authorities that are recognized as **reliable and relatively unbiased**. How do you know this? Evaluate, think critically!
- 2** For online sources, **bookmark them** into your browser.
- 3** When you come across **suspicious or strange claims** in media, check what these reliable sources tell about them.



Level: ★★☆☆





DIGITAL LITERACY: TOOLS

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What is Digital Literacy?

Critical awareness of one's digital footprint, ability to manage privacy issues and personal data, and general awareness of algorithms and AI generated content.

How can you use these tools?

When you are confronted with something that evokes emotions or a strong reaction, pause for a moment and take a closer look at what is happening before you respond. Then choose a tool to analyse the message.

Tools

- DIL1** - Simple search for terms
- DIL2** - Verify with a simple approach
- DIL3** - Investigate with lateral reading
- DIL4** - Check images and videos
- DIL5** - 10 authenticity steps
- DIL6** - Set passwords safely
- DIL7** - Manage privacy settings
- DIL8** - Notice micro-targeting
- DIL9** - Recognize safe applications
- DIL10** - Top questions to ask from AI
- DIL11** - Try feeding algorithms differently
- DIL12** - Experiment with AI tools
- DIL13** - Experiment with AI-detector tools



SIMPLE TERM SEARCH

There's plenty of fact checks going around. Easiest way to verify something is to search whether it has already been fact-checked.

When?

Social media, web sites, claims, arguments

How?



- 1** Open your **search engine** (e.g. Google, DuckDuckGo)
- 2** Type "**fact check**" and **key terms** of the thing you are checking (e.g. "vaccines autism")
- 3** OR just use **Google Fact Check Explorer**
To evaluate website reliability, just **search** "**(website name)**" and "**reliability**" or "**bias**" and see how other people have evaluated the site's reliability. Don't settle for just one source!



Level: ★ ★ ★



Fact Check Explorer

Search fact checks from the web



Recent fact checks





VERIFY WITH SIMPLE SEARCH

There's a principle to verifying information online: never settle with a single source. Always seek verification by multiple, independent sources.

When?

Social media, web sites, claims, arguments

How?

- 1** When you come across *suspicious information*, do a simple search on it
- 2** Many sources cite each other, so be wary of what you rely on – sometimes you have to *browse through multiple result pages* in order to find reliable sources.
- 3** Remember: *not everything is verifiable* – e.g. opinions!



Level: ★☆☆



is the moon made out of cheese



All Regions

Any Time

Why Do People Say the Moon is Made of Cheese? - Mental Floss

www.mentalfloss.com/article/53107/why-do-people-say-moon-made-cheese

Though the idea that the **moon is made of cheese** has been around for millennia, it's doubtful that anyone ever actually believed it, at least not academically. The earliest record of this bizarre...

The Moon is made of green cheese - Wikipedia

en.wikipedia.org/wiki/The_Moon_is_made_of_green_cheese

The Moon is made of green cheese Wolf seeing an appetizing reflection of the **Moon** in water. The fable type has a simpleton mistaking this for a round white **cheese**. "The **Moon is made of green cheese**" is a statement referring to a fanciful belief that the **Moon** is composed of **cheese**.

Scientists Finally Confirm What's Inside The Moon - ScienceAlert

www.sciencealert.com/scientists-finally-confirm-whats-inside-the-moon

By Michelle Starr Earth's **Moon**. (Thomas Campbell/NASA) Well, the verdict is in. The **Moon** is not made of green **cheese** after all. A thorough investigation has found that the inner core of the **Moon** is, in fact, a solid ball with a density similar to that of iron.

Is the Moon Really Made of Cheese? | Space

www.space.com/14741-moon-composition-cheese.html

Solar System The **moon** is the **Moon Really Made of Cheese?** News By Space.com Staff ([space.com-spacekids_logo_bar-120229b](#)) published 1 March 2012 This NASA **moon** rock was collected by...



INVESTIGATE WITH LATERAL READING

Lateral reading is a technique that is used by professional fact checkers to evaluate source reliability

When?

Social media, web sites, claims, arguments

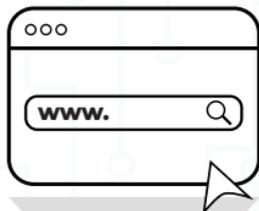
How?



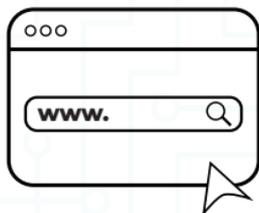
- 1** When browsing, keep multiple tabs open to search the **author**, the **sources** or the **organisation** behind a publication
- 2** You can use the **“3 questions” (Tool MIL5)** to check information: who is behind the information, what evidence is presented, and what other sources say.



Level: ★★☆☆



Author?



Sources?



Background organizations?



DO A REVERSE IMAGE SEARCH

Images can be used to mislead. Use reverse image search tools to verify if the images are real, out of context, or possibly AI generated.

When?

Social media, web sites, claims, arguments

How?



- 1** Download or *copy the image link* to clipboard
- 2** Open e.g. **Google** and click "**Search by image**" or open **TinEye** search engine, and paste your link or image
- 3** Search for **AI image detection tools** to help identify AI generated content



Level: ★☆☆



Google
images

Search any image with Google Lens



Drag an image here or [upload a file](#)

OR

Paste image link

Search



10 AUTHENTICITY STEPS

The social media is flooded with disinformation.

Here's 10 steps to verify posts

When?

Sociale media

How?

- 1** *Headline:* is it neutral or click-bait?
- 2** *Author:* are they real & accountable or not?
- 3** *Publisher:* are they a reliable person or not?
- 4** *Sources:* are there any? Are they reliable?
- 5** *Date:* still relevant, or old news?
- 6** *Links:* are they real & relevant, or not?
- 7** *Motive:* what the publisher wants to accomplish?
- 8** *Preconceptions:* is your own attitude biased?
- 9** *Presentation:* is it neutral and normal, or e.g. in CAPS and full of grammatical errors?
- 10** *Algorithms:* why are you seeing this?

Level: ★★☆☆



Take the **10 steps** to check the authenticity of social media posts





SET PASSWORDS SAFELY

Passwords shorter than 12 digits can be hacked relatively easily. Keep safe by being complex!

When?

Sociale media, apps, accounts

How?

- 1** **Decide a sentence** that is easy to remember, e.g. "I have two cats, black and white, and a dog named Jesper that barks at two A.M.!"
- 2** Make an **acronym** from it: "Ih2cb&w&dnJtb@2AM!"
- 3** You can also use "l33t speak" where some **letters are replaced by numbers** that resemble the resembling letters, e.g. "I have two cats Black & White!" in l33t speak: "1h4v3tw0c4t2Bl4ck&wh1t3!"



Level: ★☆☆



MijnLoginnaam

lhtkz&w&hgJdb1nhmvdn! 

Forgot your password?

Login





MANAGE PRIVACY SETTINGS

Tighten up your privacy settings by denying your data being used for data mining and targeting. There's really no good reason to allow it.

When?

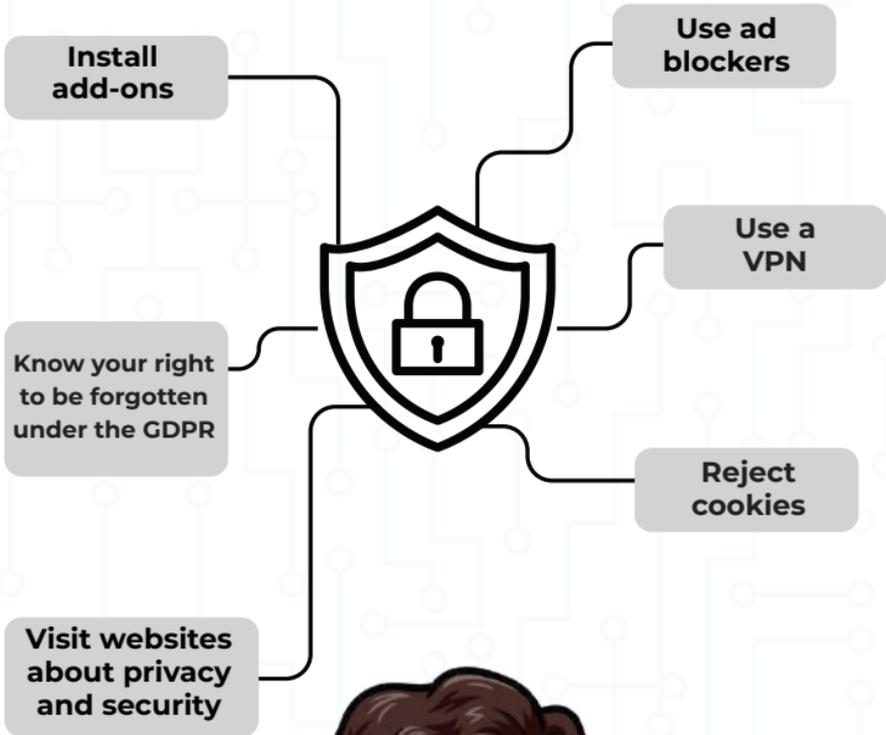
Sociale media, apps

How?

- 1** *Install add-ons* or applications **to block tracking** cookies and force HTTPS everywhere.
- 2** Use *ad-blocker* apps or add-ons
- 3** Consider a *VPN* software.
- 4** *Reject cookies* really! You have no reason to accept any but the necessary!
- 5** Get familiar with *privacy and security sites* like Have I Been Pwned.
- 6** Recognize your *right* under the GDPR to be *forgotten*, and practice it if you need to!



Level: ★☆☆





NOTICE MICROTARGETING

Algorithms are everywhere, utilizing the data gathered from our web use. They make personalized advertisement so called microtargeting possible. Be on the lookout how specific the ads are in relation to you personally.

When?

Social media, web pages, ads, search

How?

- 1** Always **ask yourself**: “Why am I seeing this ad?”
- 2** Try **browsing in another browser**, in safe mode or with a VPN. Does it affect your search results?
- 3** Especially under political elections **be wary of advertisements**, as they may be targeted specifically to persuade you, based on what data the advertisers have gathered on you and your values.



Level: ★ ★ ★





RECOGNIZE SAFE APPLICATIONS

Applications can be used for scamming, clandestine data collection, information influencing, spying and malware. Be on the lookout for suspicious apps.

When?

Sociale media, apps

How?



Before installing an app, ask:

- 1** ***Who has made the app?*** Is it someone respectable and accountable, or are they somehow obscured?
- 2** ***What do the critics say?*** Google and see, if there are any legitime concerns about it.
- 3** ***What access rights does the app require?*** If it wants access to nearly everything you do, best not to install it (unless absolutely necessary)



Level: ★★ ★





TOP QUESTIONS FOR AI

Generative AI is a powerful tool, including for clandestine purposes. To recognize AI generated content is a crucial skill.

When?

Sociale media, web, apps

How?



- 1** As the **AI cannot distinguish between fact and fiction**, be on the lookout for “hallucinated” content.
Do a fact check!
- 2** **Be careful** asking AI for advice on **any important issues**. The answer it gives may be nonsensical or even dangerous.
- 3** If you suspect that you’re chatting with an AI bot and not a person, ask them to **write a poem for you**. If they comply, it’s likely an AI. If they get confused or irritated, they’re likely real!



Level: ★★☆☆





TRY FEEDING ALGORITHMS

Suggestion algorithms can be very useful, if you know how to “feed” them. Try to prompt them purposefully.

When?

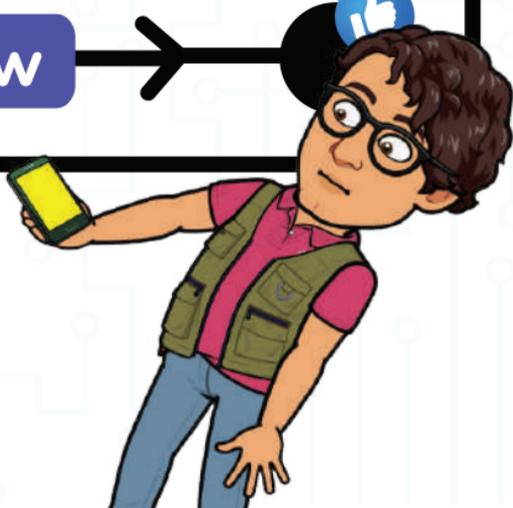
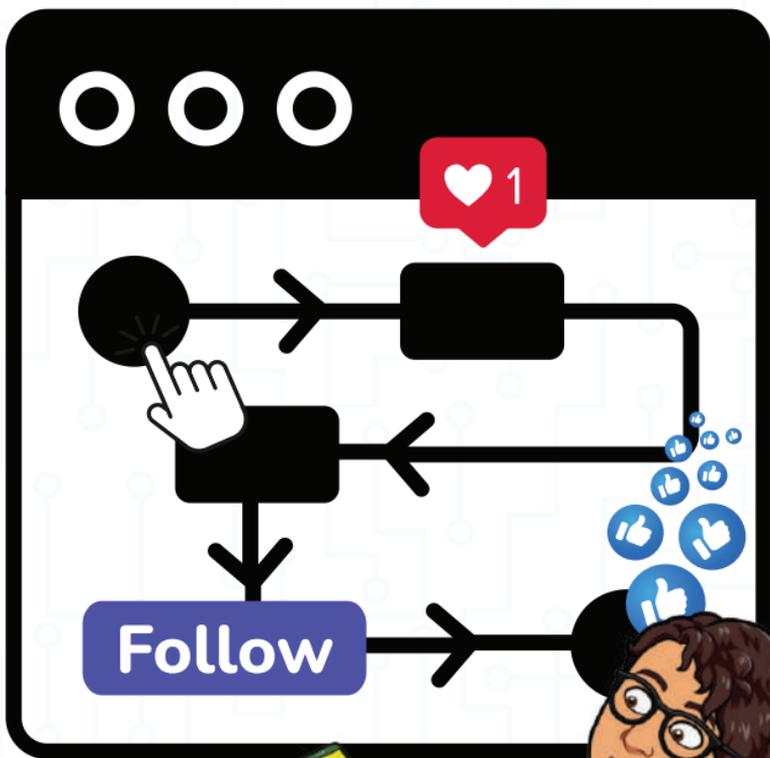
Sociale media, web, apps

How?

- 1** Suggestion algorithms in services and apps work on the basis of your behaviour patterns. Try to **change your behaviour** (e.g. start or stop “liking” things) and see how the algorithms respond.
- 2** Start **clicking or interacting with random songs, videos etc.** to see, what the algorithm can come up with. You may end up with surprising new suggestions!



Level: ★★☆☆





TRY EXPERIMENTING WITH GenAI

One best way to learn to identify GenAI generated content is to simply experiment and play with them, to get an idea what they can do and how.

When?

Artificial intelligence

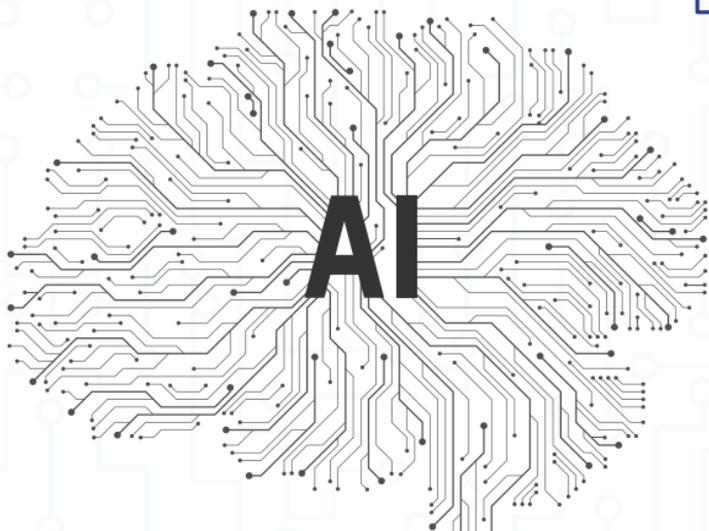
How?



- 1 There are **plenty of generative AI tools** going around for free or a nominal price.
- 2 Test the same prompt or question **many times** to see how it answers.
- 3 Test them with your friends to see how **results may vary**.
- 4 **Test various myths, memes** (like “Finland is not a real country”), or **common sense claims** and see how they respond. Is the answer hallucination? Is it biased somehow? Is it correct?



Level: ★★☆☆



THINKING...





EXPERIMENT WITH AI DETECTORS

There are a number of apps for detecting AI generated content text, images, deepfakes and cloned voices. While they are not 100% accurate, they can give some assurance whether the content is real.

When?

Sociale media, internet

How?

- 1** Do a search on **“AI detection tools”** and see what you find. Use additional search terms like **“text,” “images,”** or **“video”** for more specific needs.
- 2** Do some experiments with both **AI- and human-generated content**, and see how accurate they are. Do they give false positives/negatives?
- 3** Make some of these tools permanent tabs on your browser. When you come across **suspicious content** on social media or websites, do a check if they are AI-generated.

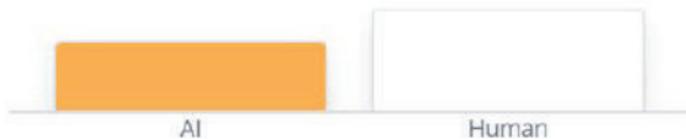


Level: ★★☆☆



41%

of text is likely AI ⓘ



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41%

Human-written & AI-refined ⓘ

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Human-written ⓘ

59%