PARIS LODRON UNIVERSITÄT SALZBURG

iDEAS:lab
Connecting the Real and Virtual Worlds

Pongau entwickelt Potenziale

Bundesministerium Frauen, Wissenschaft und Forschung

Power.play social media

How Algorithms Shape Our Perception

Tomato tomato?



training data



What determines whether something is a tomato?

Take on the role of the AI:

Part 1 Train the AI

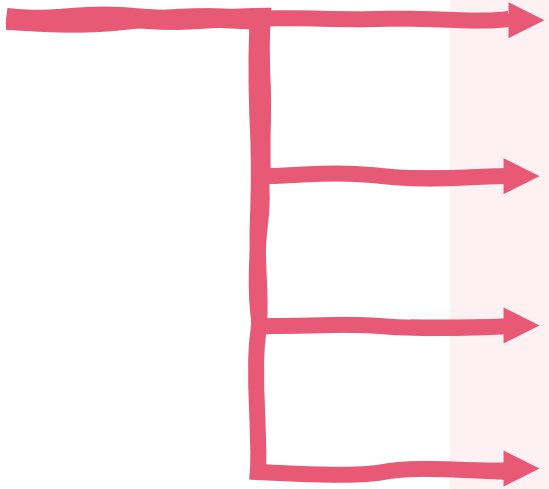
"Learn" from your training data what a tomato is

→ identify **characteristics**!

Tomato tomato?



training data



characteristics
TOMATO

round

red

shiny

stalk



Tomato tomato?



Is it round? Is it red?



Part 2 Test the AI

If the characteristics you defined match, then it's a tomato!

→ **Test the new images**

Yes

Neo

tomato ✓

no tomato ✗

Tomato tomato?



What **results** do you get when testing the new images?

What could be the **reasons** for that?



Algorithms need training data



→ the **training data** decide, what the AI learns

What problems can arise from this?

- AI learns from existing data
- If the data contains **biases**, the AI will “learn” or reproduce these biases
- Example: occupations

Does AI think in Stereotypes?

stereotype

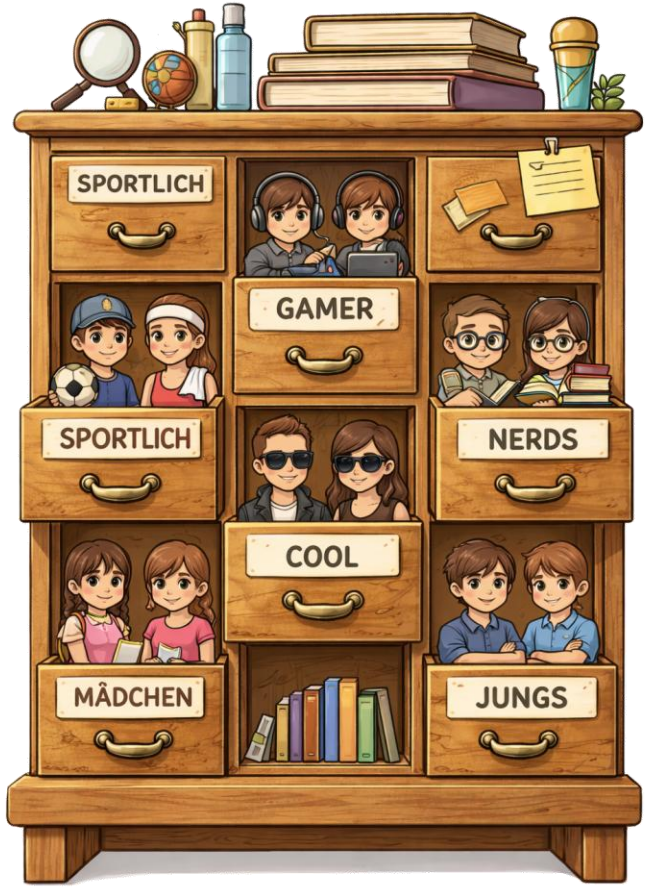
What are stereotypes?

stereotypes in a nutshell

- Stereotypes are **simplified** ideas about certain groups of people.
- The problem: they’re often unfair and inaccurate.

„You’re like this because you belong to that group.”

→ this can lead to people being judged unfairly or being excluded.



Does AI think in Stereotypes?

How AI sees...
the **profession CEO/Boss?**

A color photograph of a **CEO**

MEN	WOM.	AMB.
94	5	1



Denkt AI in Stereotypen?

How AI sees...
the **profession teacher?**

A color photograph of a **teacher**

MEN	WOM.	AMB.
12	76	12



narrative

We all live inside digital **narratives**. Algorithms help shape them.

What story do you live in? - Introduction to “Narrative”

- A narrative is a **simple story** we use to explain the world.



We all live inside (digital) **narratives.** Algorithms help shape them.

What story do you live in? - Introduction to “Narrative”

- A narrative is a **simple story** we use to explain the world.
- Narratives shape identity, self-image, and how we interpret information.
- Media and digital platforms reinforce narratives:



→ **how** the story of a text/information is **constructed**

→ and how **information is presented** to readers.

Narratives and framing in ads

example: cigarettes.

… once

https://www.youtube.com/watch?v=0_4b7DTorXk

… today



Narratives and framing in media



family



Swiss legend

Nephew of ski superstar wins two Golden

winning



mily coup

Aigner wins second gold medal in ski thriller

winning



During the Olympics

Shiffrin responds to hate comments: "Piece of shit"



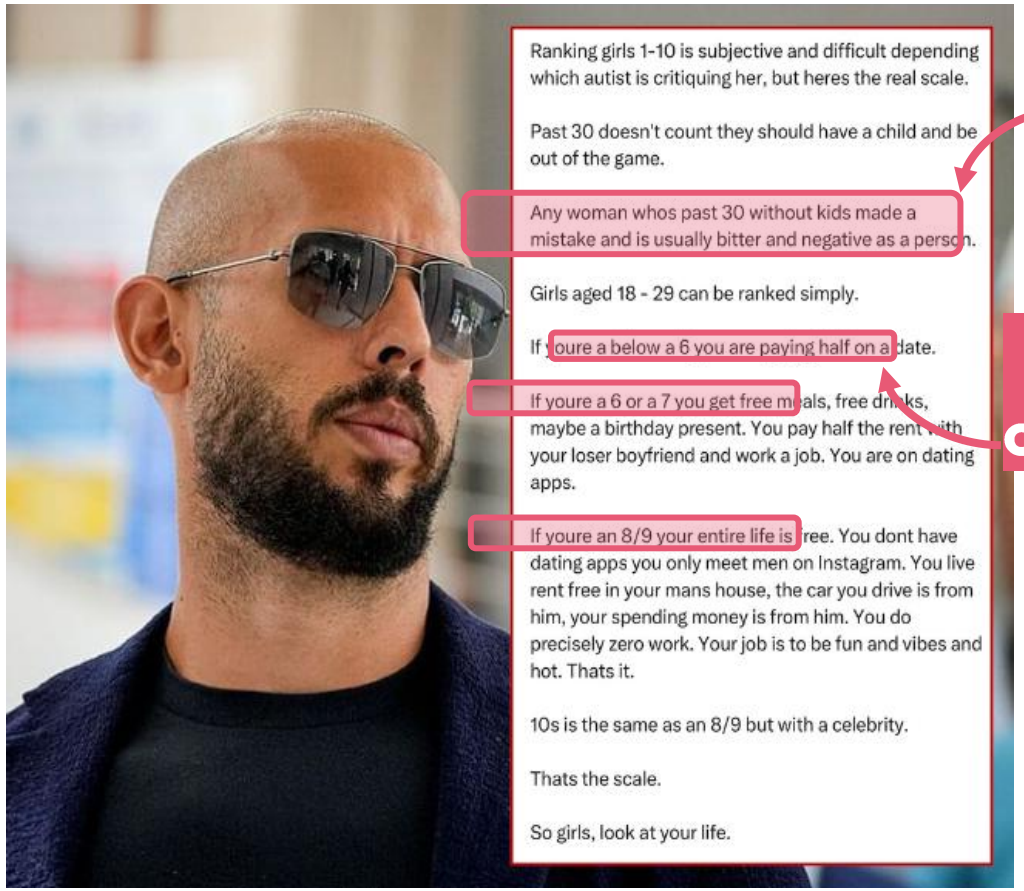
15 years of heute.at

Hirscher: "If I make mistakes, they will kill me."

Victim/ problems

dangers

Narratives and framing in media

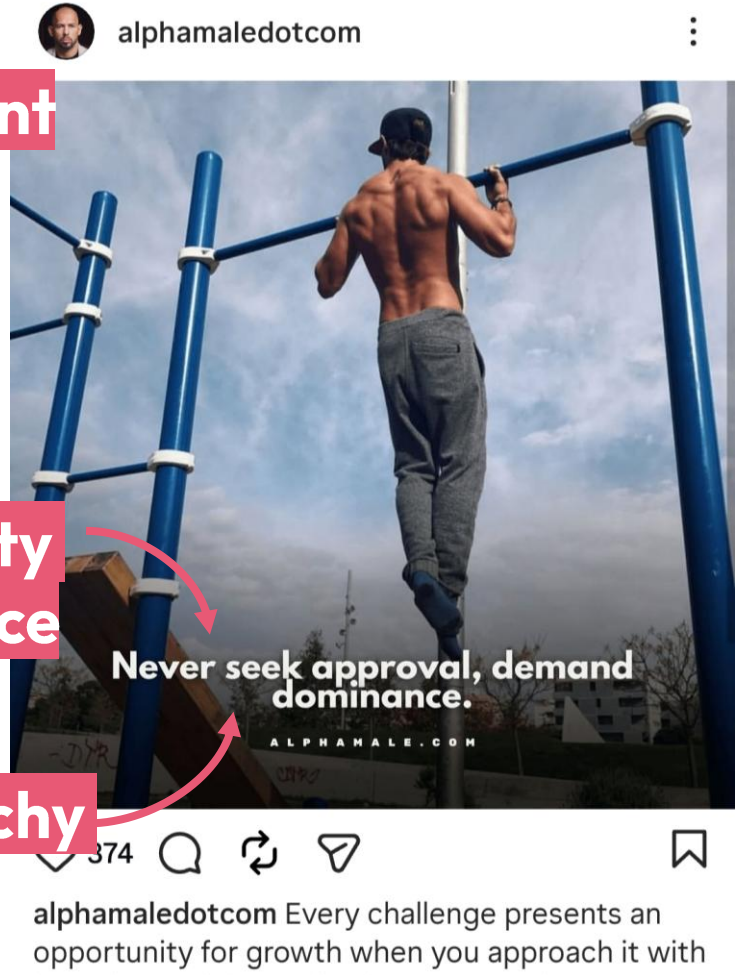


Disempowerment of women

Ranking of women

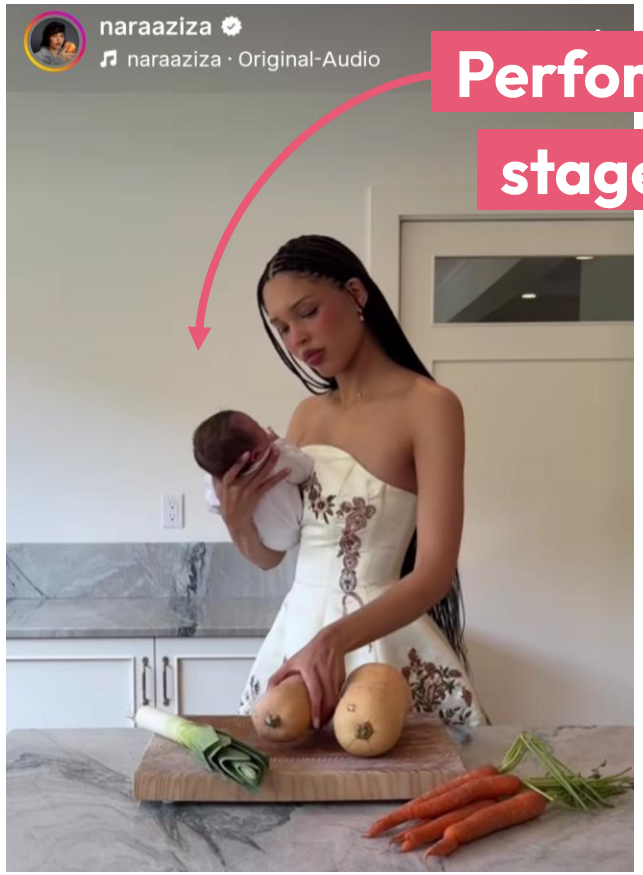
Masculinity = dominance

Power hierarchy & control



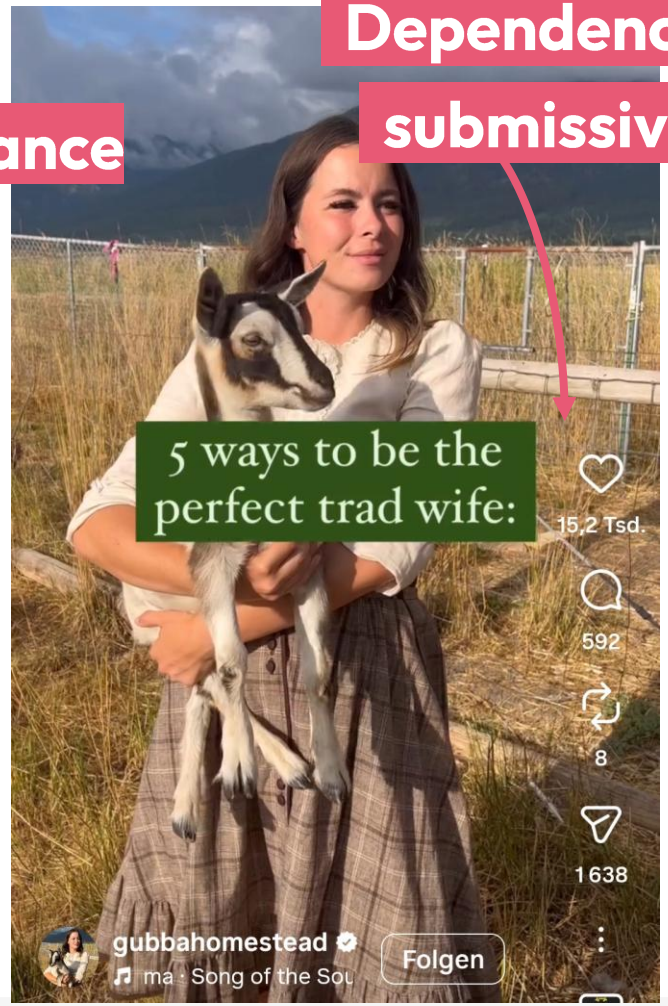
Narratives and framing in media

Trad wives trend



Performance

staged



Dependency

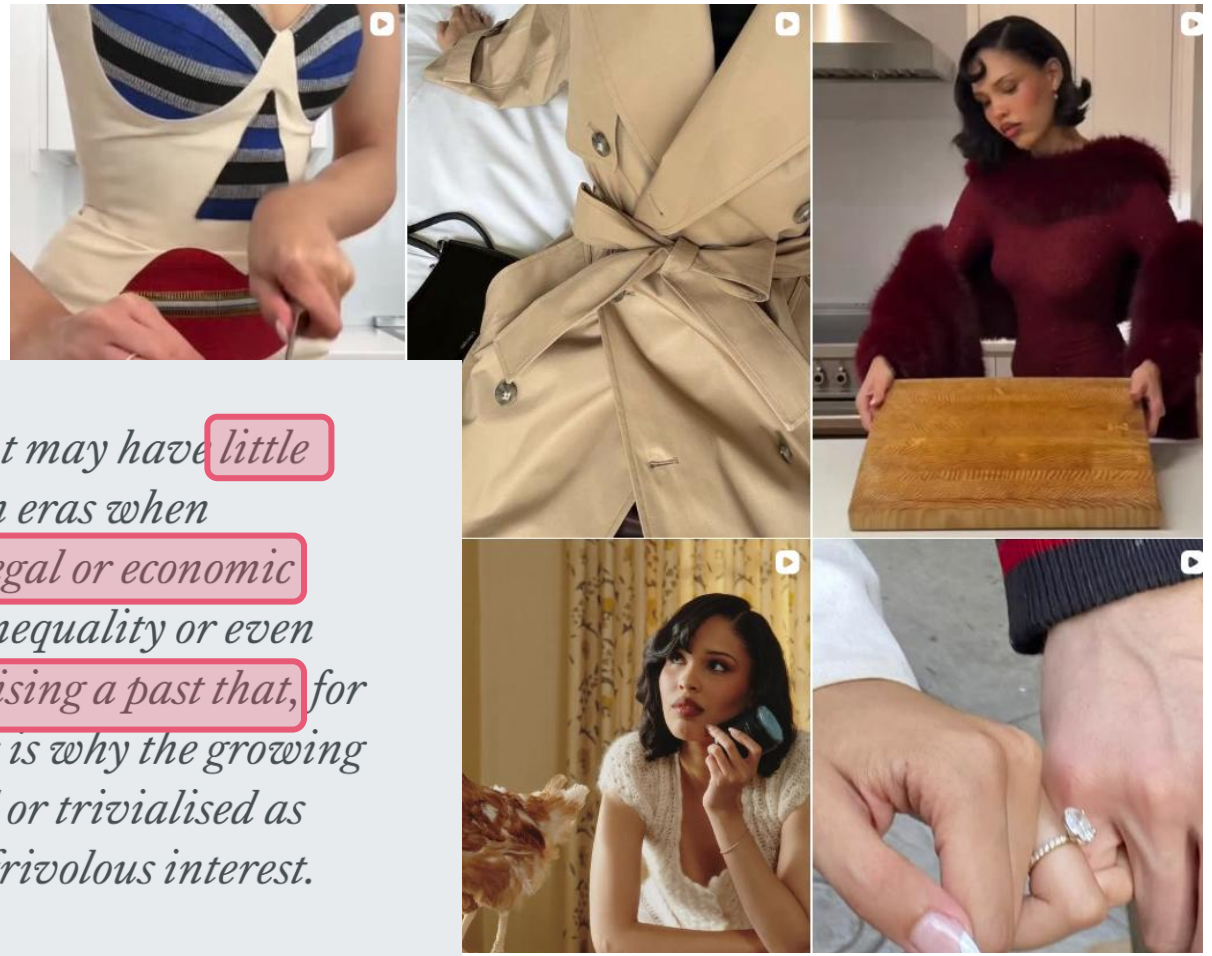
submissive

brand/content strategy



Narratives and framing in media

Trad wives trend



> *Many younger women engaging with tradwife content may have little historical awareness of the realities faced by women in eras when financial dependence left them vulnerable - without legal or economic power and often trapped in relationships marked by inequality or even domestic abuse. Forgetting this history risks romanticising a past that, for many women, was neither safe nor empowering. This is why the growing popularity of tradwife content should not be dismissed or trivialised as something pertained to young women and their light frivolous interest.*
>
> Shiyu Yuan, Research Assistant at King's Global Institute for Women's Leadership

How does genAI work?

Where do these patterns go next?



They don’t just stay on social media.

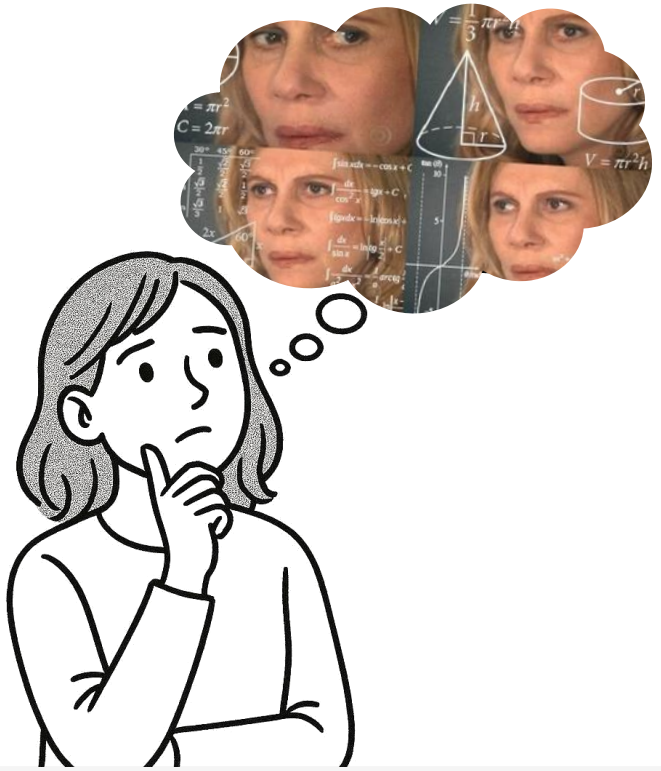
They become **data.**

How does genAI work?

Generative AI (ChatGPT, image generators, filter, story-Bots) work, by learning from **masses of training data**.

Training data consists of:

- Texts, images, videos
- Online articles
- Social media content and comments
- Search queries and conversations

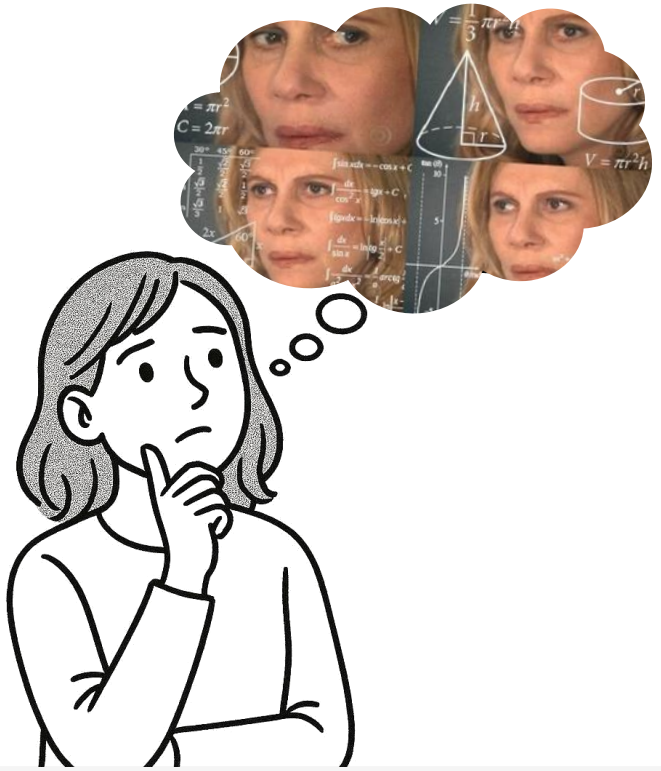


How does genAI work?

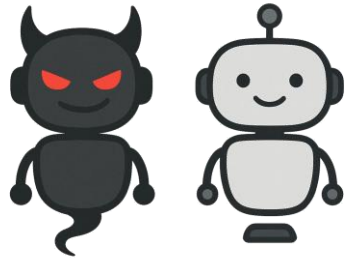
Generative AI (ChatGPT, image generators, filter, story-Bots) work, by learning from **masses of training data**.

The AI does not know, what is RIGHT and WRONG.

It only copies **statistical patterns** from data → and these often contain stereotypes and biases.



Alter Ego von Chatbots



Part 1 Chat with the chatbot

Ask questions and comment, see how the bot responds.

→ Find out, which **view/ perspective** the chatbot has



Group Alex

Group Charlie

How does genAI work?

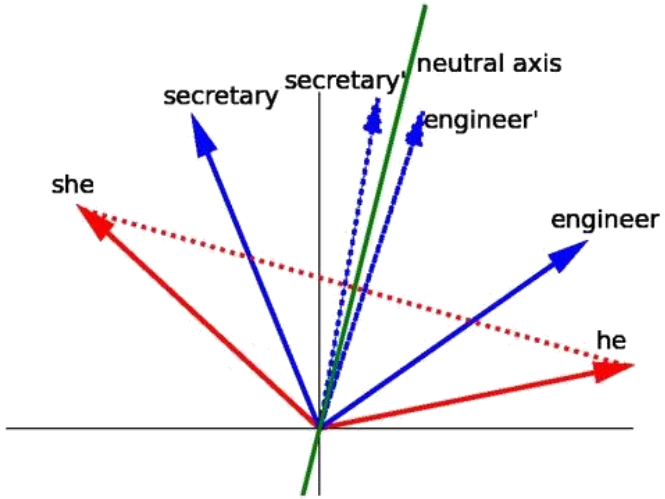
for experts

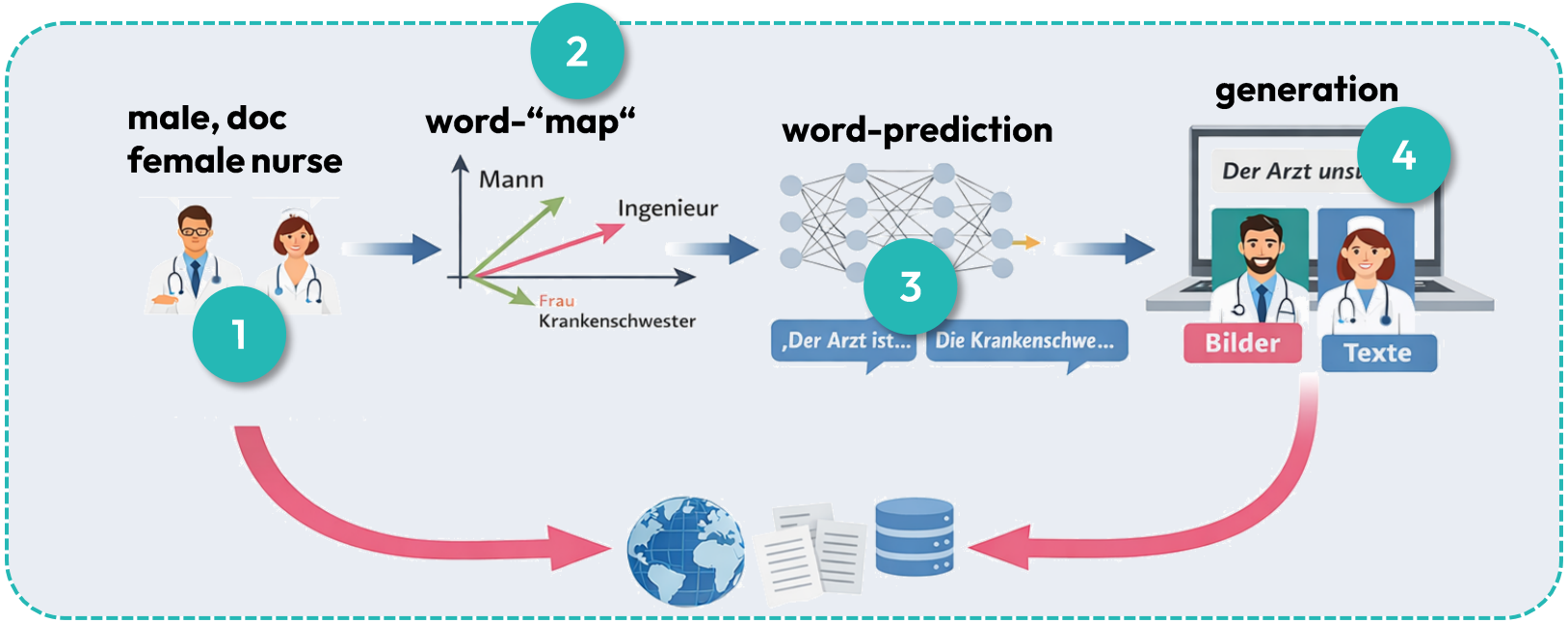
A view inside the AI process

The AI saves **words** not as individual letters, but as

points within a large number space

(word vectors in a coordinate system) ➔like a „**map**“





Prozess der KI

1. Training data / „learning“
2. word-map
3. Highest probability
4. generation

„Tik Talk“ - behind the scences

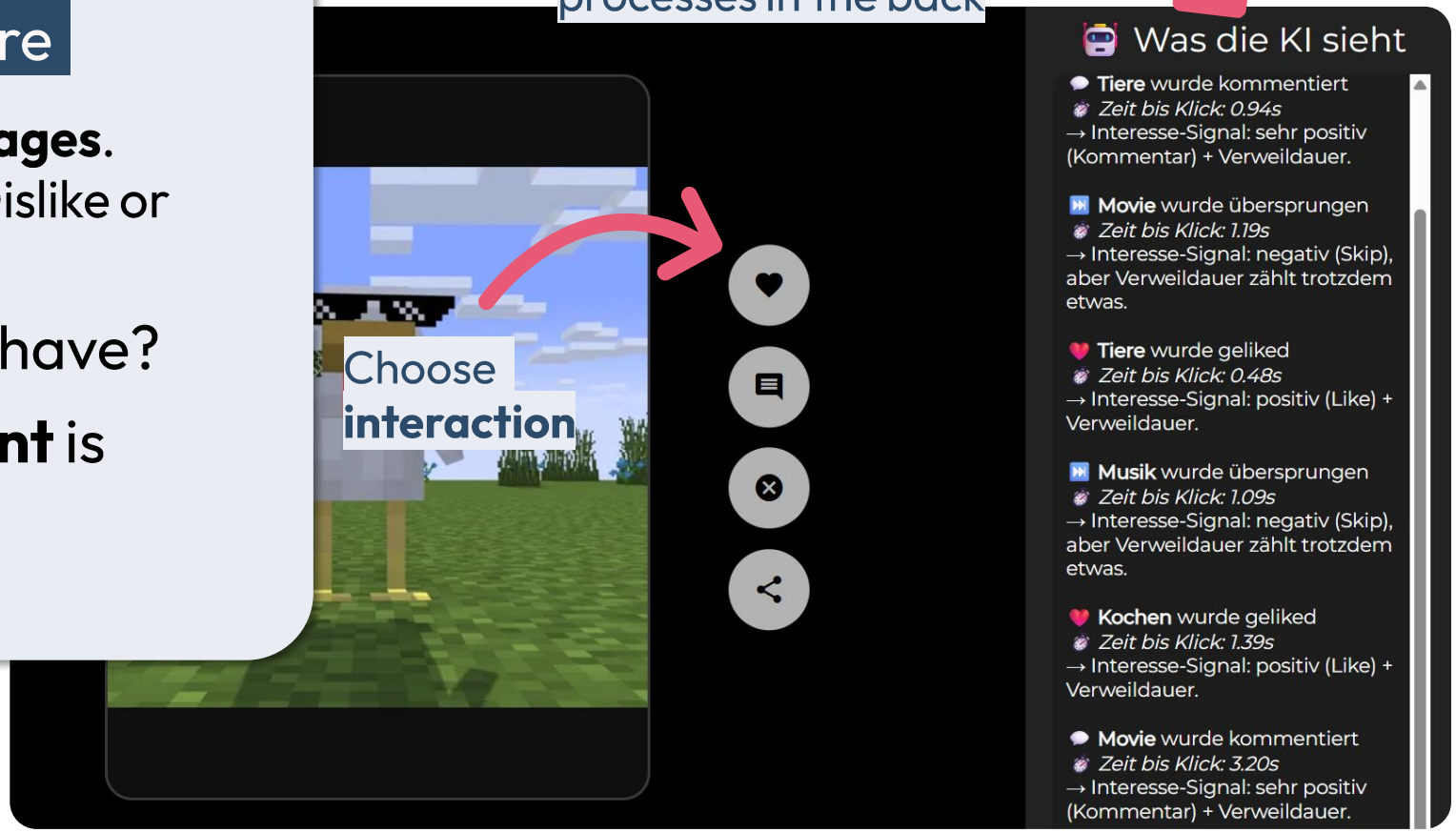
Tik talk – like, comment, share

Click through all 20 photos and images.
You can simulate: Like, Comment, Dislike or Share!

→ Which **preferences do** you have?

→ What type of **advertisement** is recommended to you?

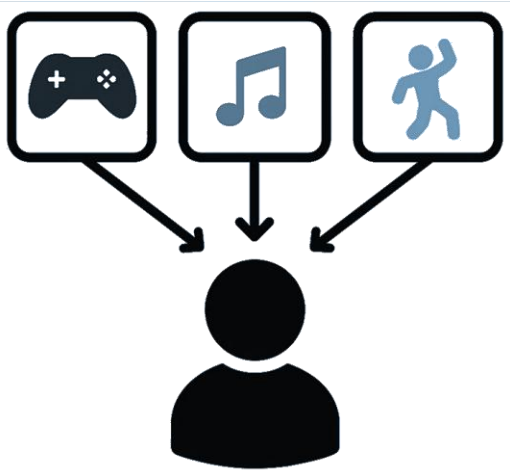
view of the AI – processes in the back



YOU ARE
THE DATA!



ads & ad targeting



Recommendation systems

... analyze user behavior and detect patterns to **predict which content** you are most likely to enjoy.

1. Similar user → similar content → Collaborative Filtering
   What did friends/others like? This might interest you too.

2. Similar content → similar recommendations → Content-based Filtering
   Content is analyzed (topics, images, texts, hashtags,...)

3. Black Box + Super Booster → AI-models: similar behaviours → Deep Learning
   scrolling behaviour, profile infos, day time, type of device, location,...

ads & ad targeting

filter bubbles



Social media presents users content,
that fits to their behaviour and preferences:

- what they **like**, what they **share**, who they **interact** with
- what is **viewed** longer

the algorithm learns:

„Ah, a person is interested in X – so I‘ll present more of that X.“

How a bubble emerges: You’ll see more and more like-minded things, but less and less oppositional content.

AI vs. „NI“ (Natural Intelligence)



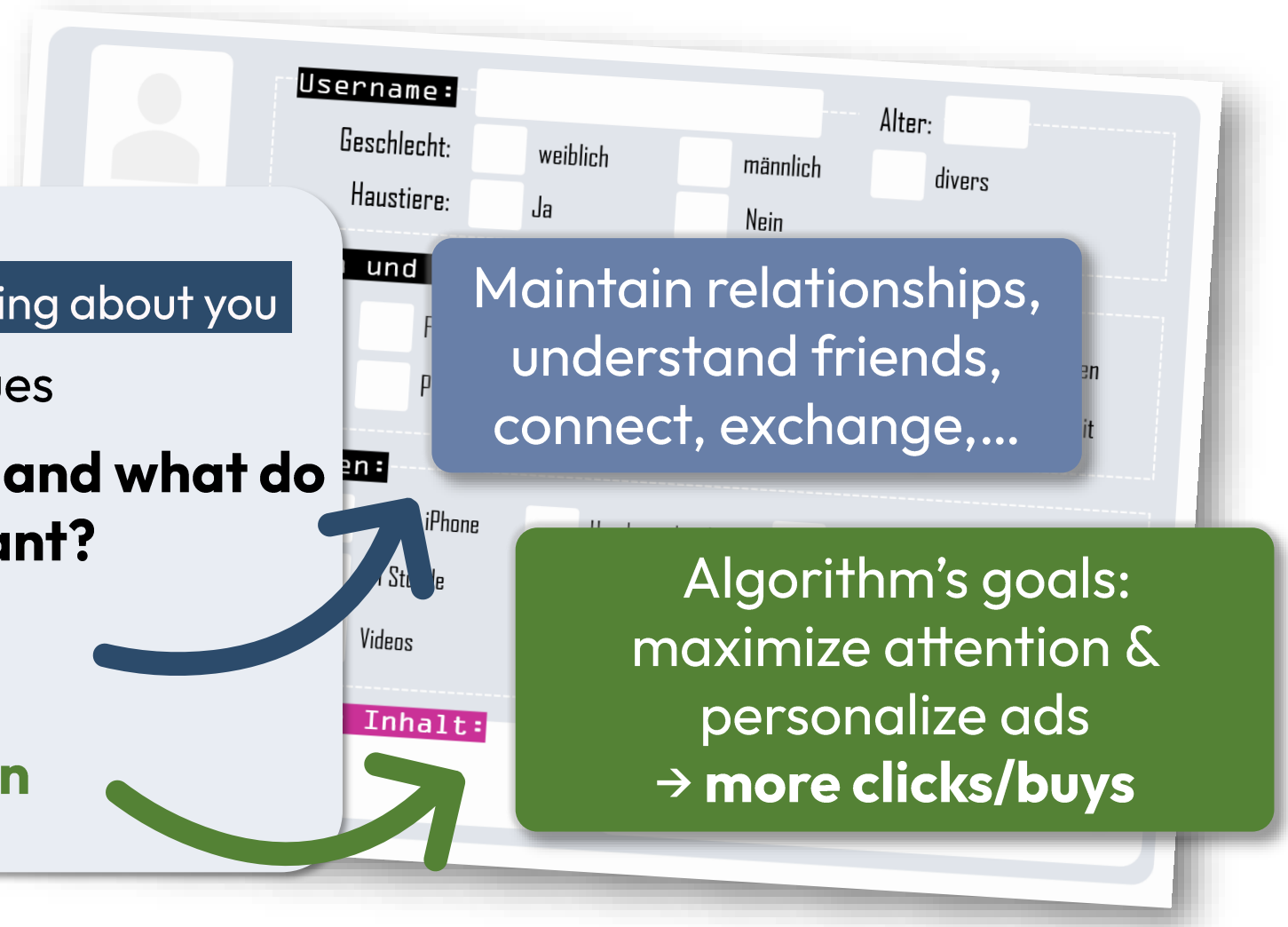
Profiling – The algorithm is learning about you

What do you know about the person next to you?

→ **Analyze based on the data sheet for „AI-Analytics“**

→ **Suggest content/ads!**

AI vs. „NI“ (Natural Intelligence)



Profiling – The algorithmus is learning about you

Social-Media vs. friends/colleagues

→ **What are your intentions – and what do social media algorithms want?**

Social purpose

vs.

economic intention

Maintain relationships, understand friends, connect, exchange,...

Algorithm’s goals: maximize attention & personalize ads → **more clicks/buys**

Possible consequences

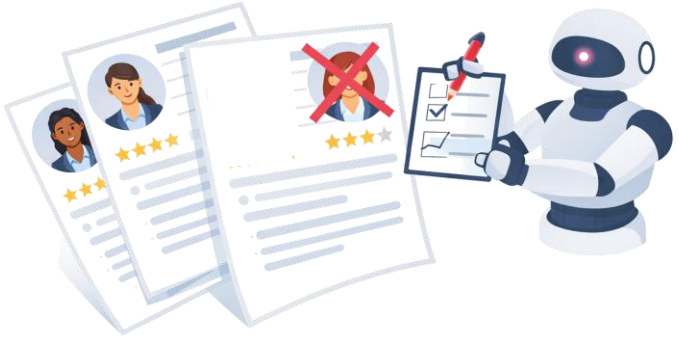
Stereotype auf Autopilot

AI fuels stereotypes

… and influences decisions and processes as a result.

- AI-based job recruiting
- Medical diagnostics (e.g. heart attack symptoms)
- Biased/framed language used by AI-assistants,…

AI-decisions influence future data



e.g. applications

→ AI “learns” to recruit less women per company/less leadership positions

AI & stereotypes – what can I do?

- Actively question recommendations:
  Why am I seeing this?
- Cookies and profile data
  → try **incognito mode**
  How different are search results/suggestions?
- Avoid spreading stereotypes:
  don‘t share/like discriminating content
- Reduce ads & personlisation
  (data protection settings, ad blocker,…)
- Go outside! Enjoy non-screen-time



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power.play
social media

How Algorithms Shape Our Perception

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