

Curs 07 – Why Privacy?

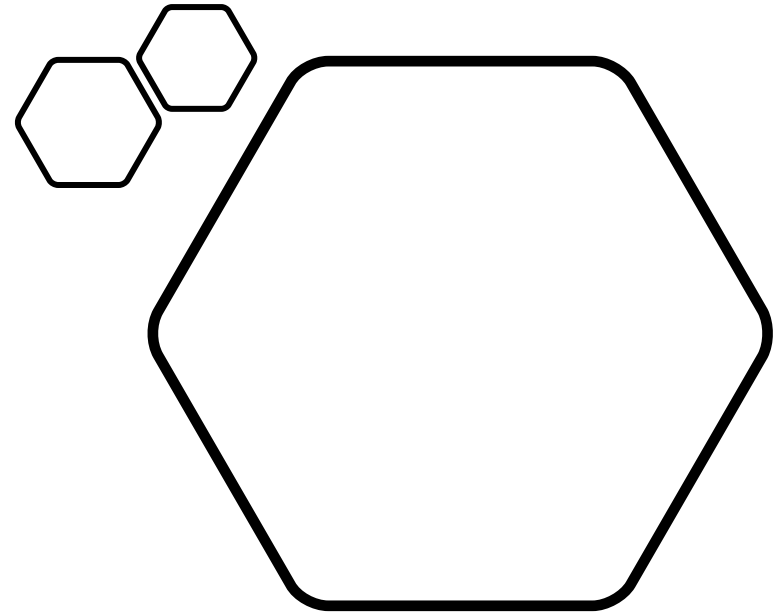
Predicția în capitalismul supravegherii

11/16/2023

Structura cursului

1. Why?
2. Cauzalitate
3. Măsurare
4. Modelare și eșantionare
5. Tehnici de analiză
6. Analiza datelor în RL
7. Why Privacy?
 - Why?
 - Who cares?
 - Capitalismul datelor
 - Recoltarea datelor
 - Reacții civice și legale
8. Anonimizarea, de-identificarea și pseudonimizarea datelor
9. Homomorphic Encryption. PIR
10. Differential Privacy
11. Membership inference
12. Federated Architecture. Multi-Party Computation
13. Zero proof. Blockchain architectures

Dar de ce?



Confidențialitatea datelor – dorință sau alegere?

11/16/2023



Privacy is not cake

Privacy is a choice



Privacy vs. Choice Enhancing Technology

- Information is fuel for choice
- The world becomes more predictable
 - Google Search
 - Google Maps & Waze
 - Tripadvisor, Airbnb
 - Facebook, LinkedIn
 - Amazon, Tinder, Uber
 - Generative AIs
- We become more predictable! ([Harari](#))
 - Who knows us?
 - Who can manipulate us?
 - Who can replace us?



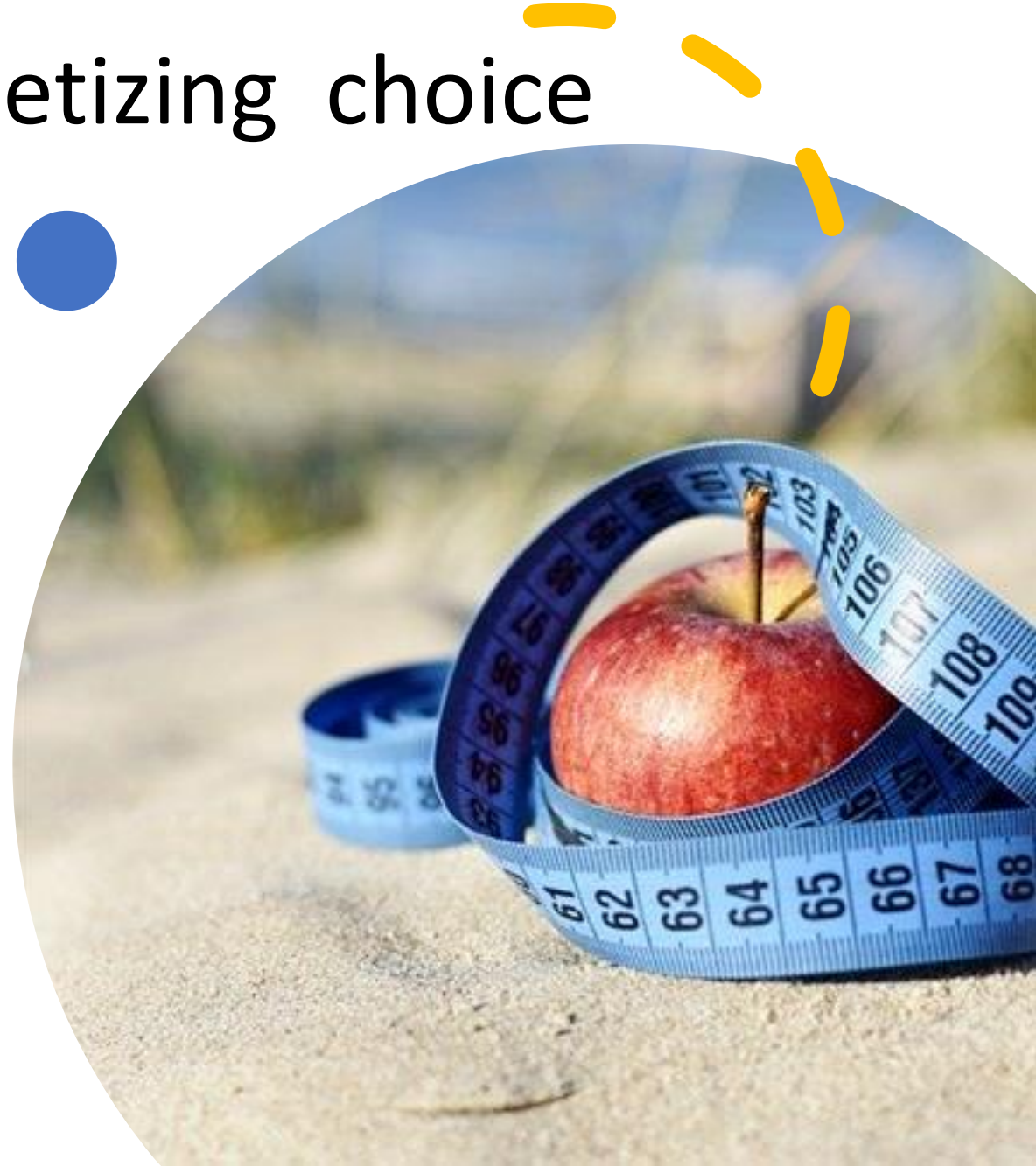
Tech = extending ourselves

- The plus side: Technologies **extend us**
 - Extended memory
 - Extended cognition
 - Extended relationships
 - Extended eroticism
 - Extended imagination
 - Extended desire
 - Extended creativity? (Generative AI)
- The minus side: **who pays?**
 - Technologies **monetize** selves
 - For the profit of others
- Technologies **downgrade** us ([Harris](#))



Tech = enhancing & monetizing choice

- Tech = Vision + **Business**
- Possible / **Business** / Probable
 - How do business logics shape our choices?
- A new world order
 - [Surveillance capitalism](#)
 - Persistent data capture at scale
 - To predict and change our actions
 - 4th Industrial Revolution: integration of computing, big data and humans
 - **The AI/ML wave**: organized algorithms make ethical decisions for and about us
 - The Generative AI wave: algorithms predict what would we create



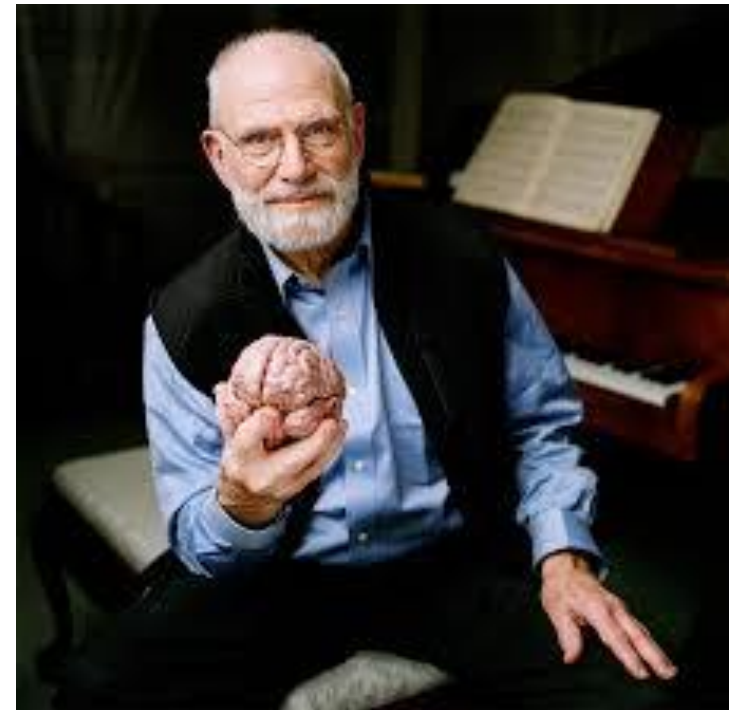
A hand holding a smartphone. The screen shows a person walking away on a railway track that curves through a dense green forest. The background of the slide is a light grey gradient.

When have I been manipulated?

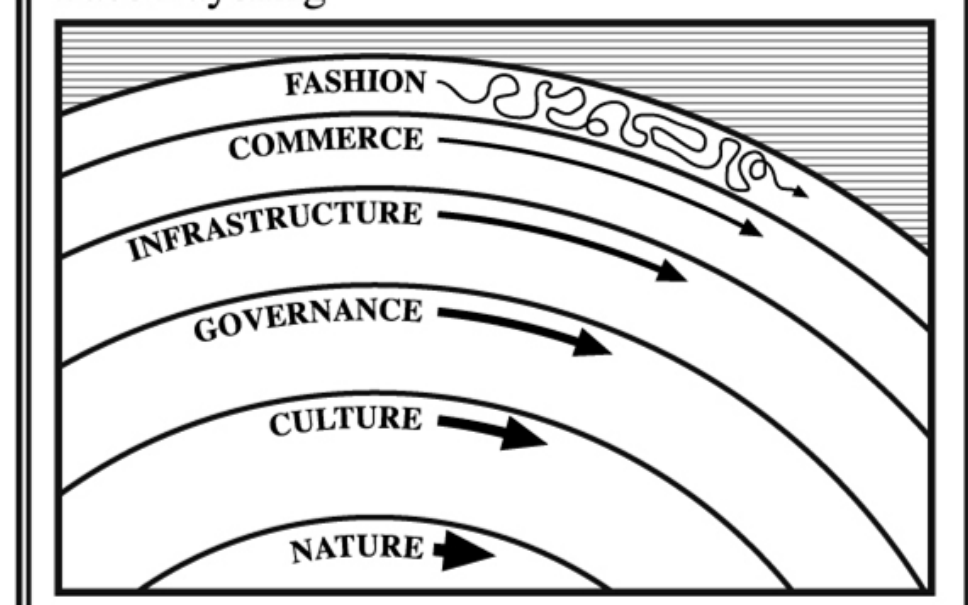
- Manipulation through time
- Micro-moments: Cumulative, long-standing real-time intervention with feedback loops
- Invisible & un-explainable algorithmic decisions that classify and target us
- Deep change in culture and nature through fast-paced technological disruptions

Oliver Sacks: The eternal present

- Oliver Sacks, 2019, The Machine Stops
- Manipulation is not a big change of mind or hearts, but minuscule shifts in relevance and action
 - Induced through nudges, prompts, and feedback loops
 - It occurs in the continuously adaptive present



Stewart Brand: Pace layering



- Stewart Brand, Pace layering diagram; see his discussion [here](#)
- Fast changes in the upper layers trickle down to the deeper layers
- How do digital technologies change human nature?
 - Creativity
 - Reading & writing
 - Memory
 - Attention
 - Love
 - Friendship and trust



Why now?



- Global legal changes
 - The [AI Act](#) – under elaboration
 - The [Digital Services Act](#) in EU – from 2024
 - The [GDPR](#) in EU – since May 25th, 2018
 - The California Consumer Privacy Act ([CCPA](#)) – since January 1st, 2020
- Anti-trust investigations
 - Ex. EU anti-trust decisions against Google (2017, 2018, [2019](#), [2022](#), [2023](#))
 - US House Judiciary Committee investigation on Google, Facebook, Amazon and Apple ([Sept. 2020 Report](#))
 - US antitrust cases ([Source](#)) – eg [California against Amazon, 2022](#)
- Collective action through NGOs



AI Act – High stakes

- Live facial recognition
- Emotional recognition in workplaces, immigration
- If you make a weapon or bioterror with an AI model, the company will also be liable – fined up to 6% or banned from the EU
- Submitting list of data sources for model training to the Commission
- Reporting electricity consumption

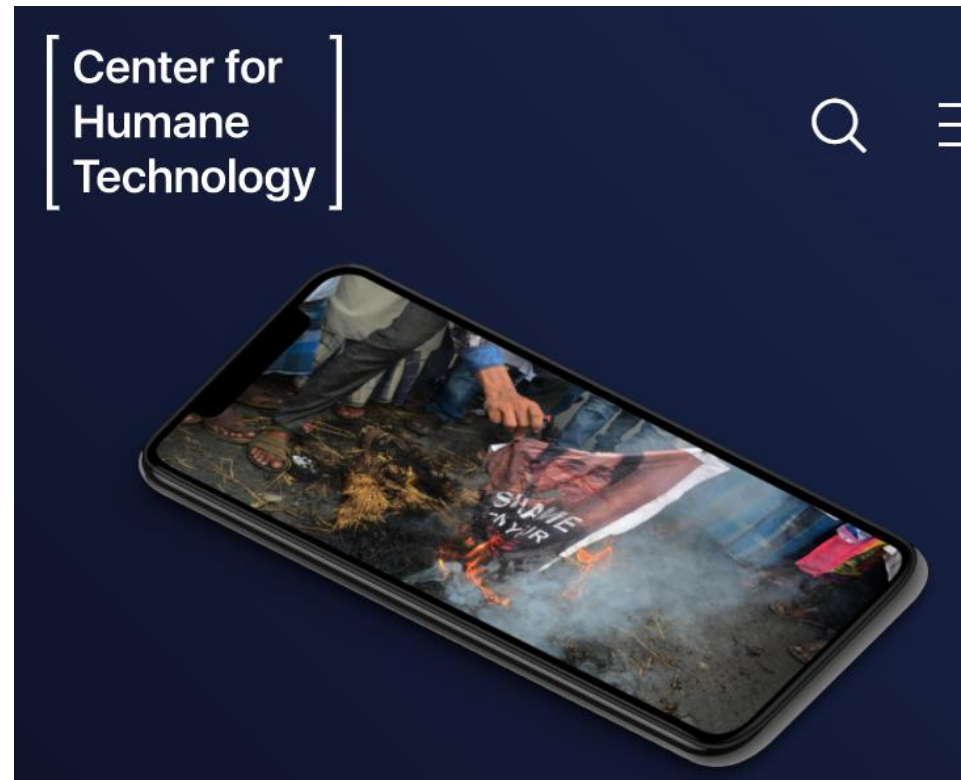
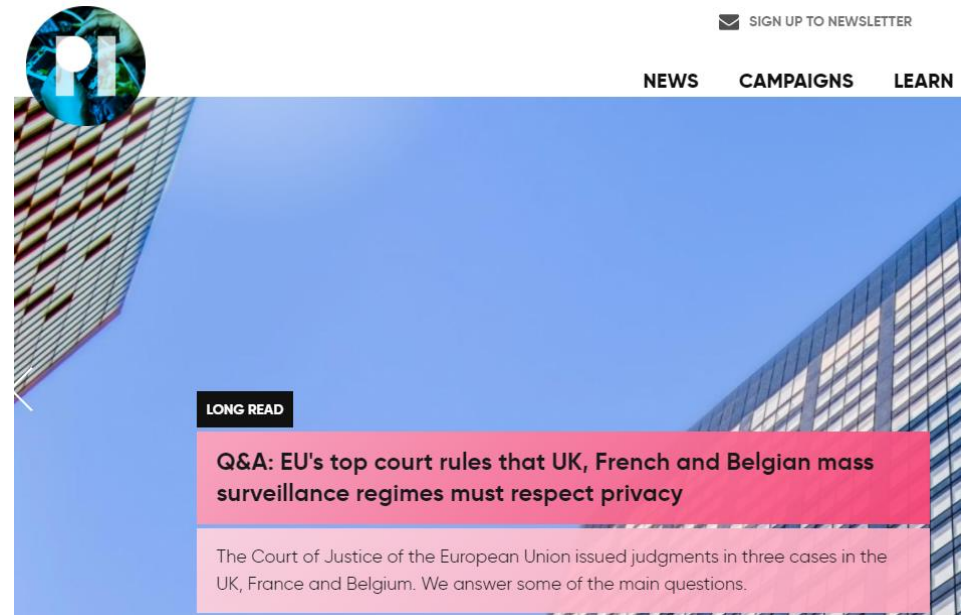
“We are in touching distance,” he said. “A good 60-70% of the text is already agreed.”



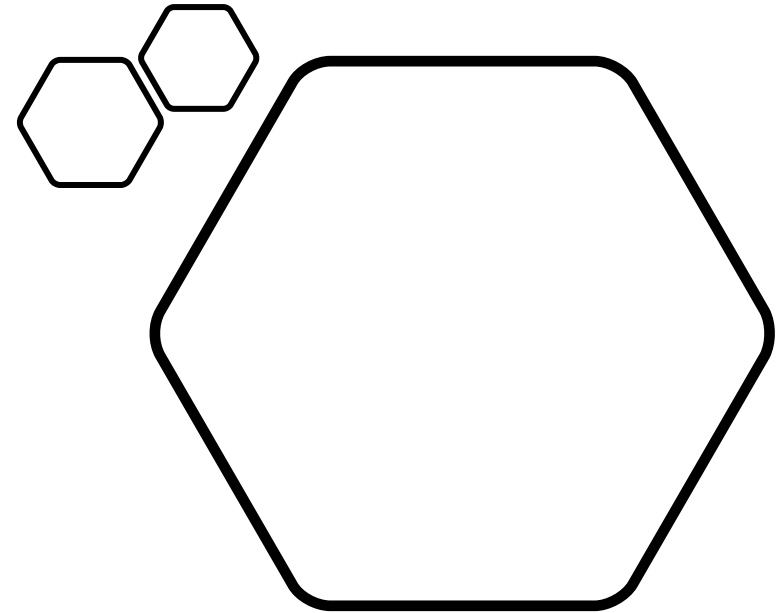
📷 Dragoș Tudorache, an MEP and co-rapporteur of the AI committee in the European parliament: 'It means AI companies can't wash away their responsibility.' Photograph: Lisa O'Carroll/The Guardian

Collective action through NGOs

- [European Digital Rights](#) EDRi (EU)
- [Asociația pentru Tehnologie și Internet](#) APTI (Ro)
- [Center for Humane Technology](#) (US)
- [Privacy International](#) (UK)
- [Electronic Frontier Foundation](#) EFF (US)



Cui îi pasă?



Inechitățile și daunele capitalismului supravegherii

11/16/2023

The Social Dilemma - Experts

- Shoshanna Zuboff: Noted for her work on surveillance capitalism.
- Roger McNamee: Early investor in Facebook.
- Tristan Harris: Former design ethicist at Google and co-founder of the Center for Humane Technology.
- Jaron Lanier: Prominent tech philosopher and critic.
- Justin Rosenstein: Co-creator of the Facebook "like" button.
- Cathy O’Neill: Known for her insights on algorithms and data science ethics.
- Anna Lembke: Addiction expert at Stanford University, highlighting the addictive nature of technology



Tristan Harris

- Computer scientist, ethicist, businessperson
- Founder of Center for Humane Technologies
- [Interviews](#)
 - [Downgrading the human](#)
 - [Can truth survive Big Tech?](#)
 - TED Talks: [How a handful of tech companies control billions of minds every day](#)



Jaron Lanier

- Computer scientist and philosopher, composer, businessperson
- Founder of virtual reality
- [Web](#)
- Interviews
 - [How social media ruins your life](#)
 - TED Talk: [How we need to remake the Internet](#)



Justin Rosenstein

- Software programmer and entrepreneur
- Co-founder of Asana
- **Developer of the Facebook Like button**
- Interviews
 - [Why not a Dislike button?](#)



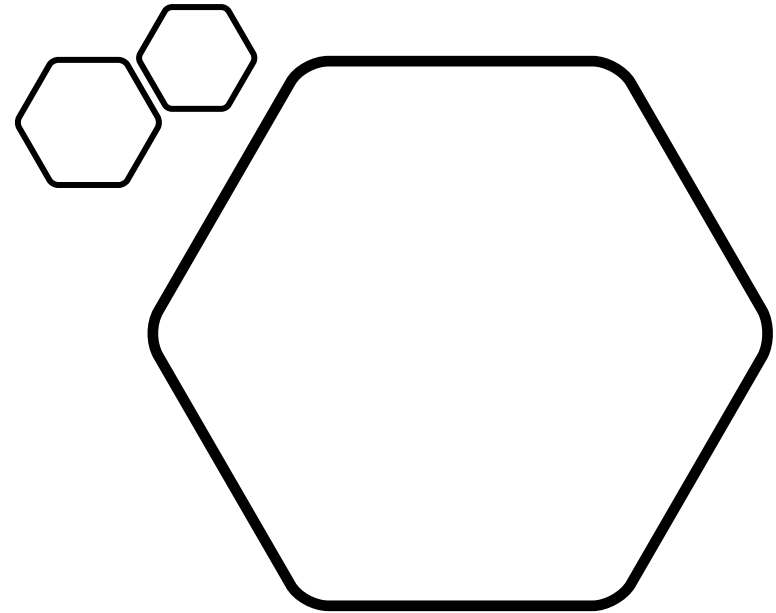
Tim Kendall

- Tech CEO
 - CEO of Moment, an app that helps adults and children use their phones in healthier ways
- Former **director of monetization at Facebook** and president of Pinterest
- Interviews
 - [On Social Dilemma and social media addiction](#)



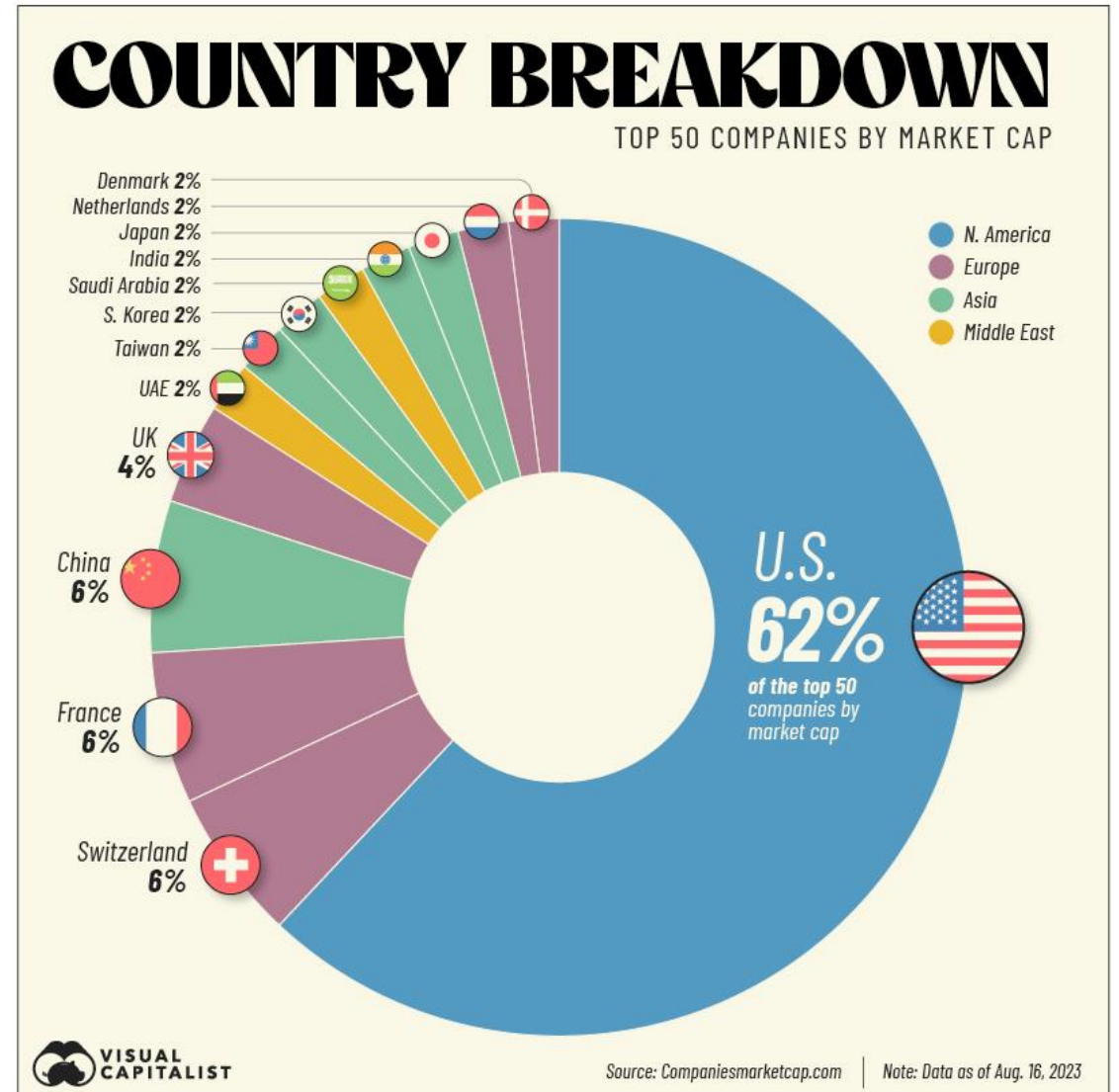
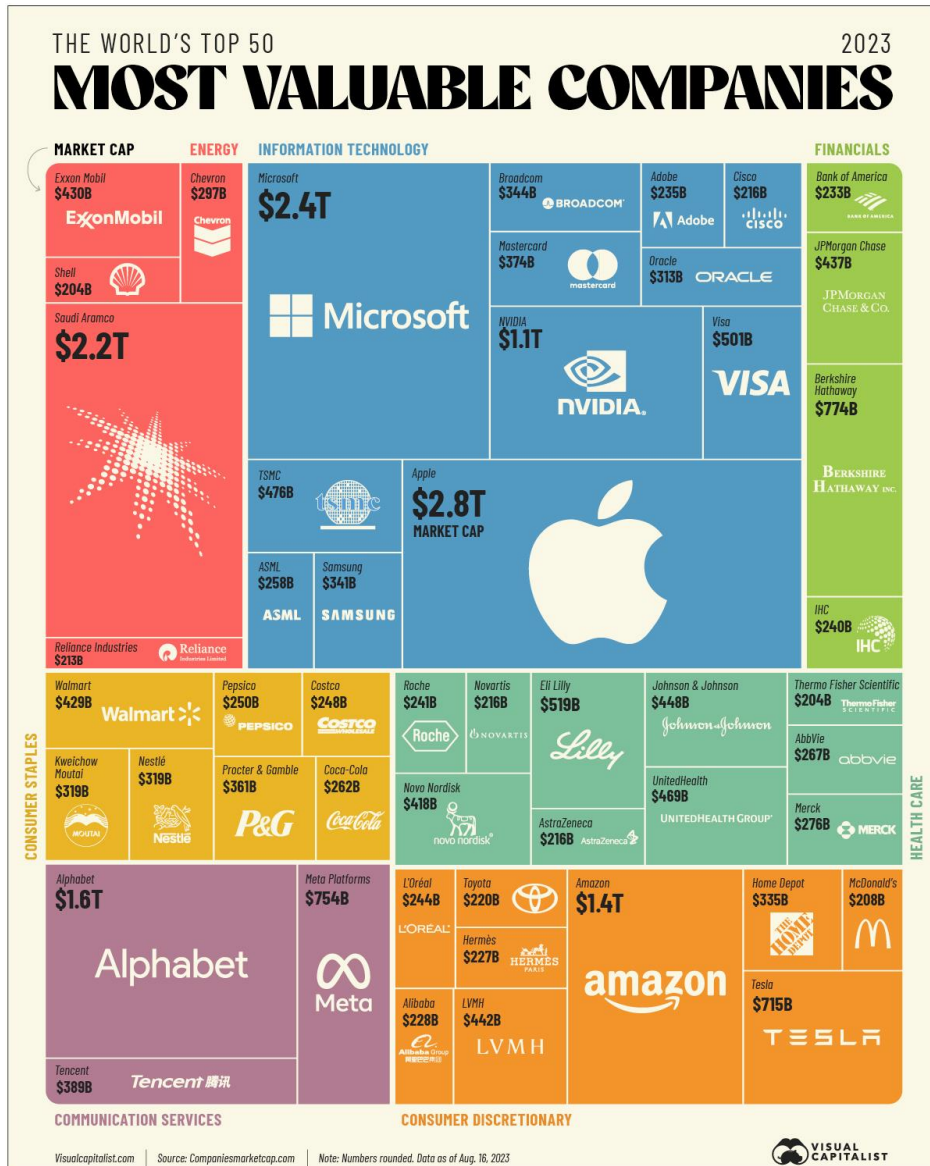
Capitalismul datelor

Personalizare și profiluri digitale



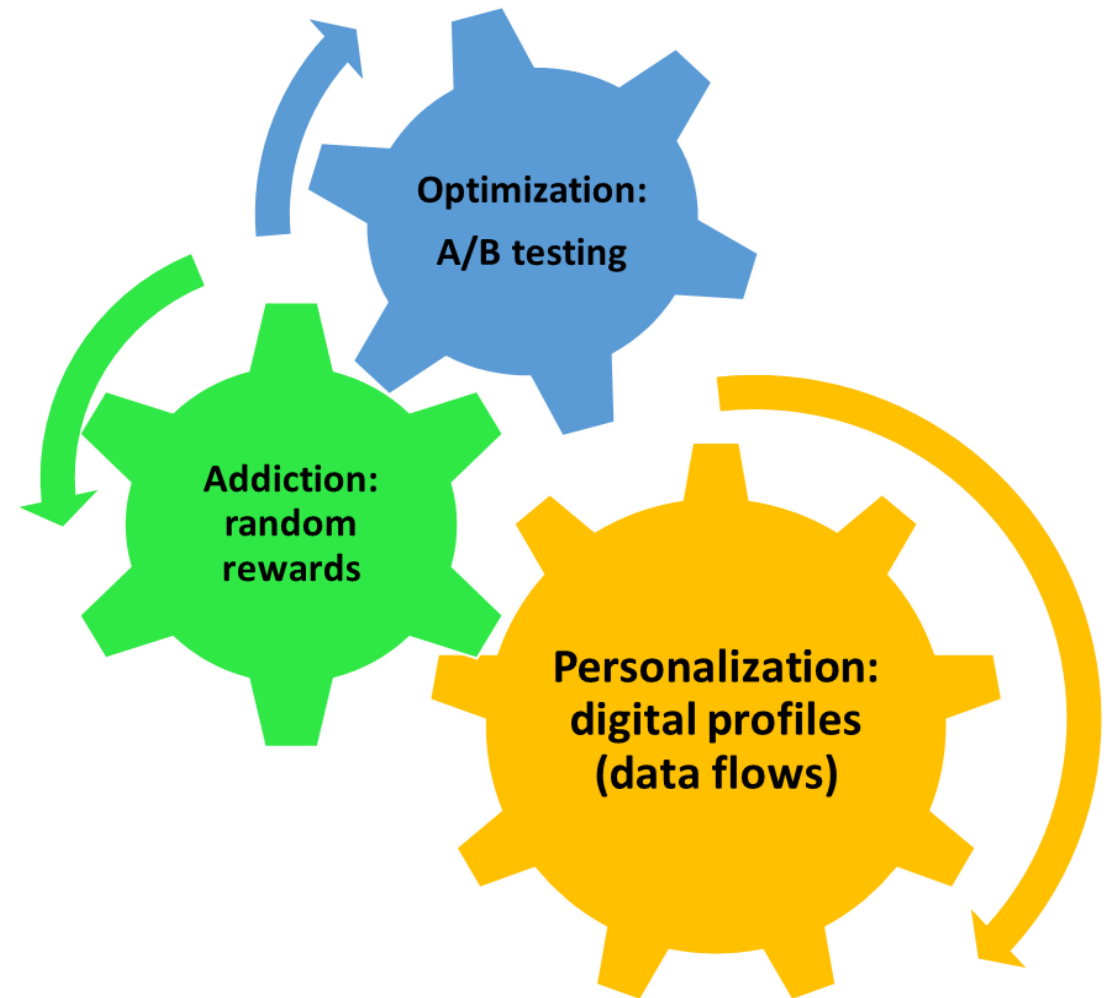
11/16/2023

Cele mai valoroase companii, 2023



Personalizare & predicție:

- Predicție prin A/B testing
- Predicție prin adicție
- Predicție prin **profiluri digitale & ML**



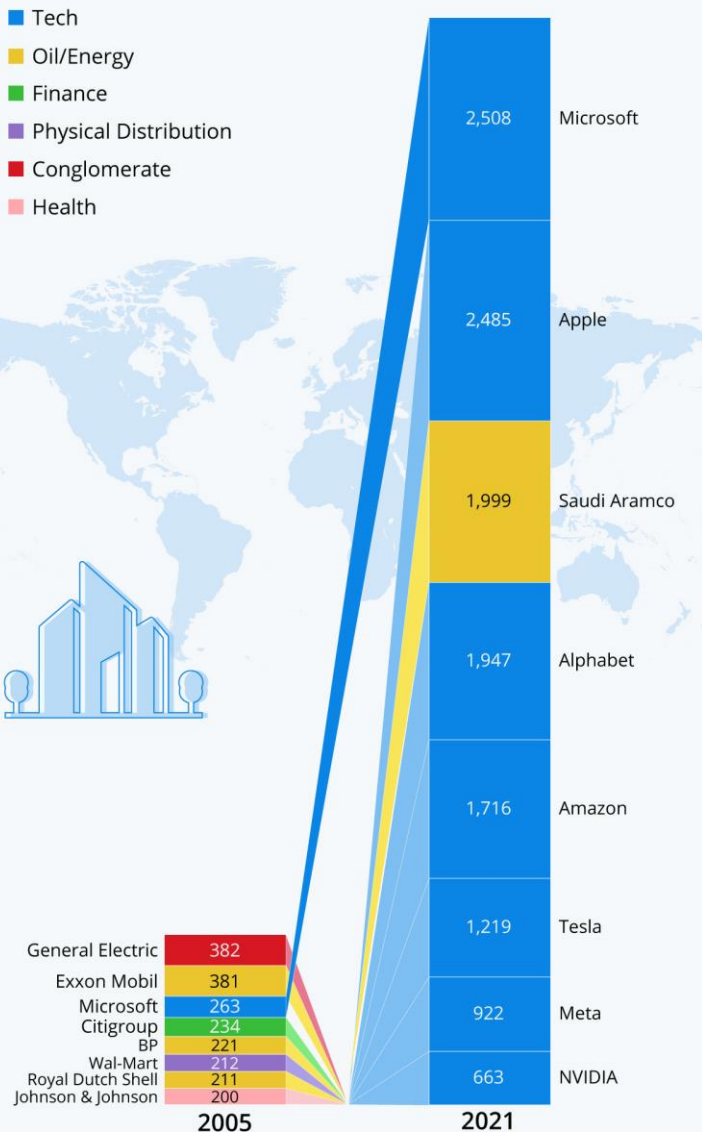
THE INTERNET IN 2023 EVERY MINUTE



„Data is the new oil”

The Age of the Tech Giants

Companies with the world's largest market capitalizations in 2005 and 2021 (in billion U.S. dollars)*



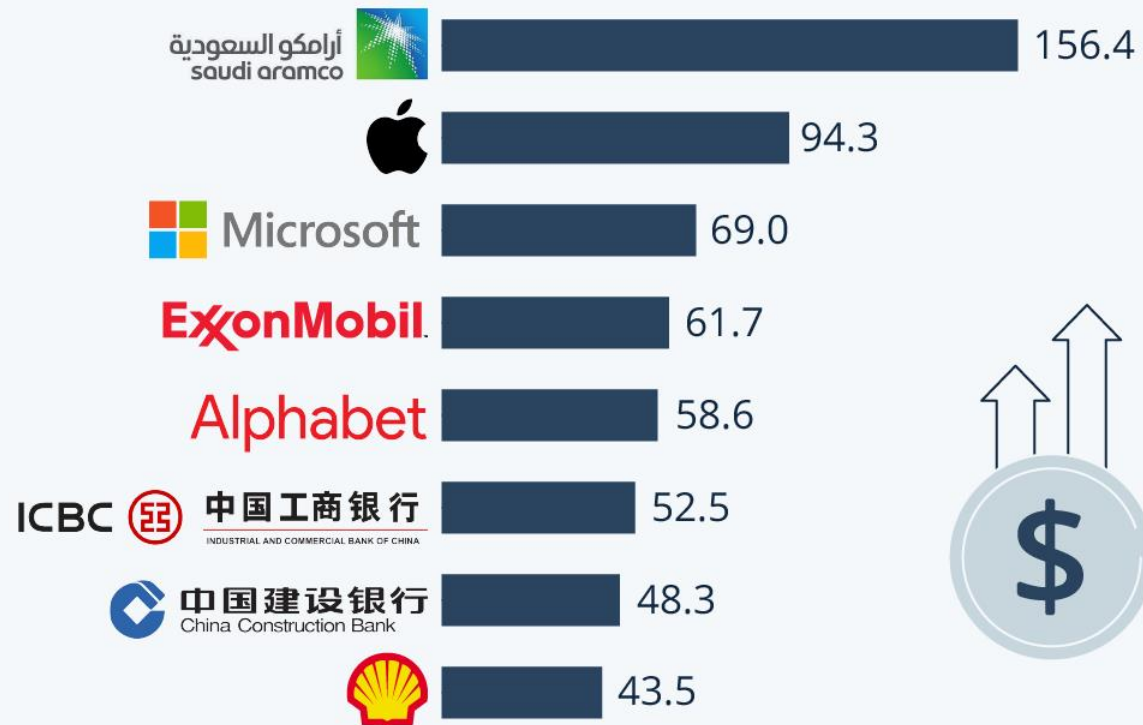
* As of March 31, 2005 and November 4, 2021.
Sources: Financial Times, Yahoo! Finance



Sursa

The Most Profitable Companies in the World

2022* profits of the world's most profitable publicly listed companies (in billion U.S. dollars)



* last 12 months available as of May 5, 2023

Source: Forbes Global 2000





Microsoft Corp

NASDAQ: MSFT

Overview

Videos

Compare

Financials

Market Summary > Microsoft Corp

369.67 USD

+ Follow

+369.57 (369,570.00%) ↑ all time

Closed: Nov 16, 08:00 EST • Disclaimer

Pre-market 372.48 +2.81 (0.76%)

1D

5D

1M

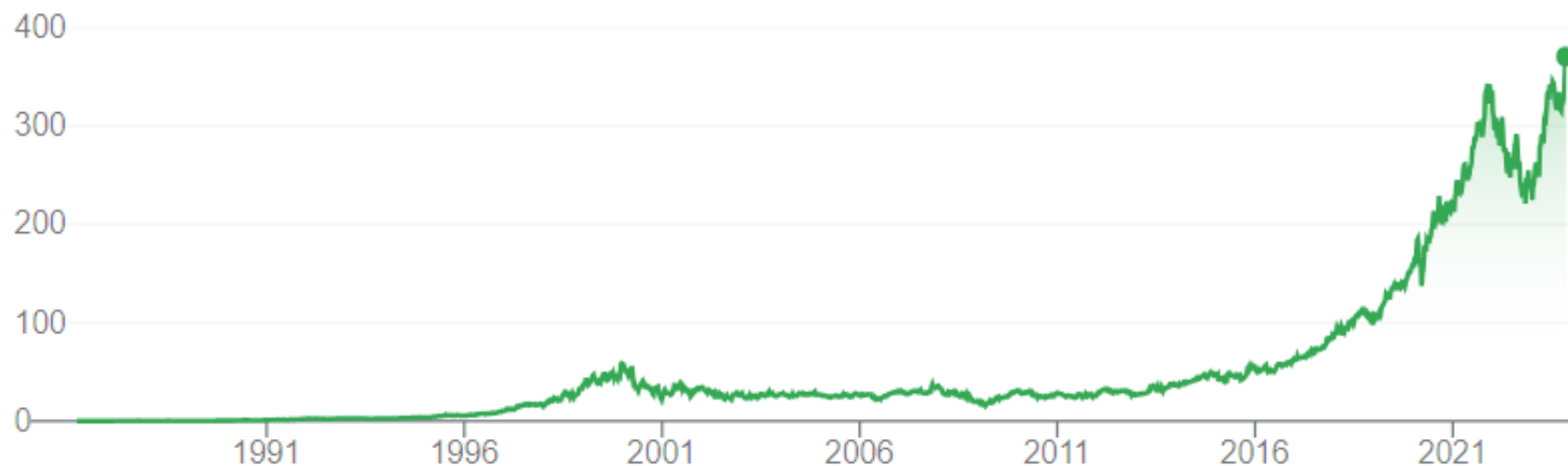
6M

YTD

1Y

5Y

Max





Apple Inc

NASDAQ: AAPL

Overview

Compare

Financials

Market Summary > Apple Inc

188.01 USD

+ Follow

+187.92 (208,800.00%) ↑ all time

Closed: Nov 16, 08:00 EST • Disclaimer

Pre-market 188.17 +0.16 (0.085%)

1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max



facebook

Meta Platforms Inc

NASDAQ: META

Overview

Compare

Financials

Market Summary > Meta Platforms Inc

332.71 USD

+ Follow

+294.48 (770.29%) ↑ all time

Closed: Nov 16, 07:45 EST • Disclaimer

Pre-market 330.80 -1.91 (0.57%)

1D

5D

1M

6M

YTD

1Y

5Y

Max





Amazon.com Inc

NASDAQ: AMZN

Overview

Financials

Compare

Market Summary > Amazon.com Inc

143.20 USD

+ Follow

+143.11 (159,011.11%) ↑ all time

Closed: Nov 16, 07:57 EST • Disclaimer

Pre-market 141.56 -1.64 (1.15%)

1D

5D

1M

6M

YTD

1Y

5Y

Max



Alphabet

Alphabet Inc Class A

NASDAQ: GOOGL

Overview

Compare

Financials

Market Summary > Alphabet Inc Class A

134.62 USD

+ Follow

+131.91 (4,867.53%) ↑ all time

Closed: Nov 16, 07:54 EST • Disclaimer

Pre-market 134.96 +0.34 (0.25%)

1D

5D

1M

6M

YTD

1Y

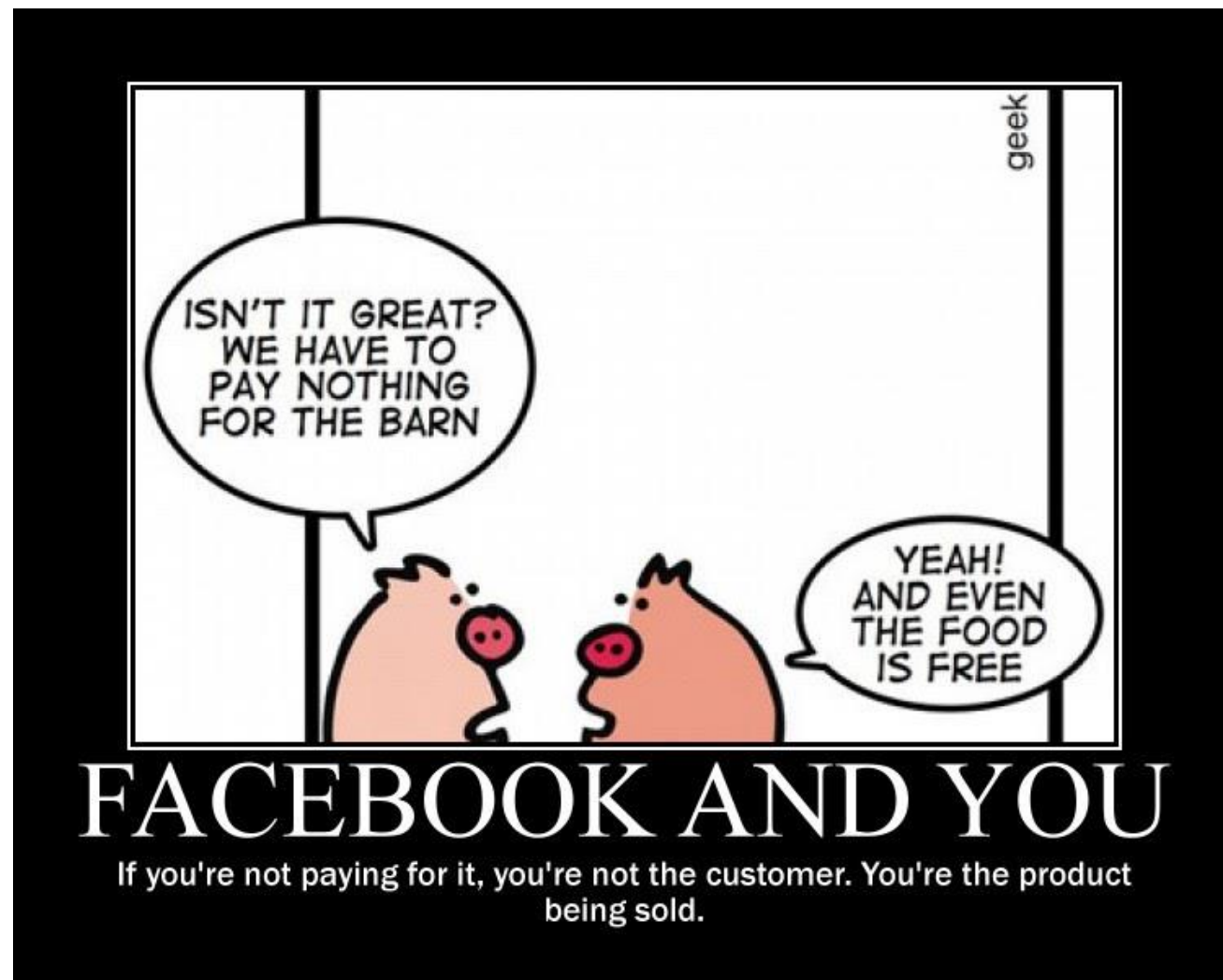
5Y

Max



Capitalismul datelor

- Modelul de afaceri Google, Facebook etc. depinde de **marketingul algoritmic personalizat (AdTech)**
- **Piețele de date** sunt în expansiune
- GenerativeAI solicită și mai multe date pentru antrenament



[Gmail](#) [Images](#)



Google



Google Search

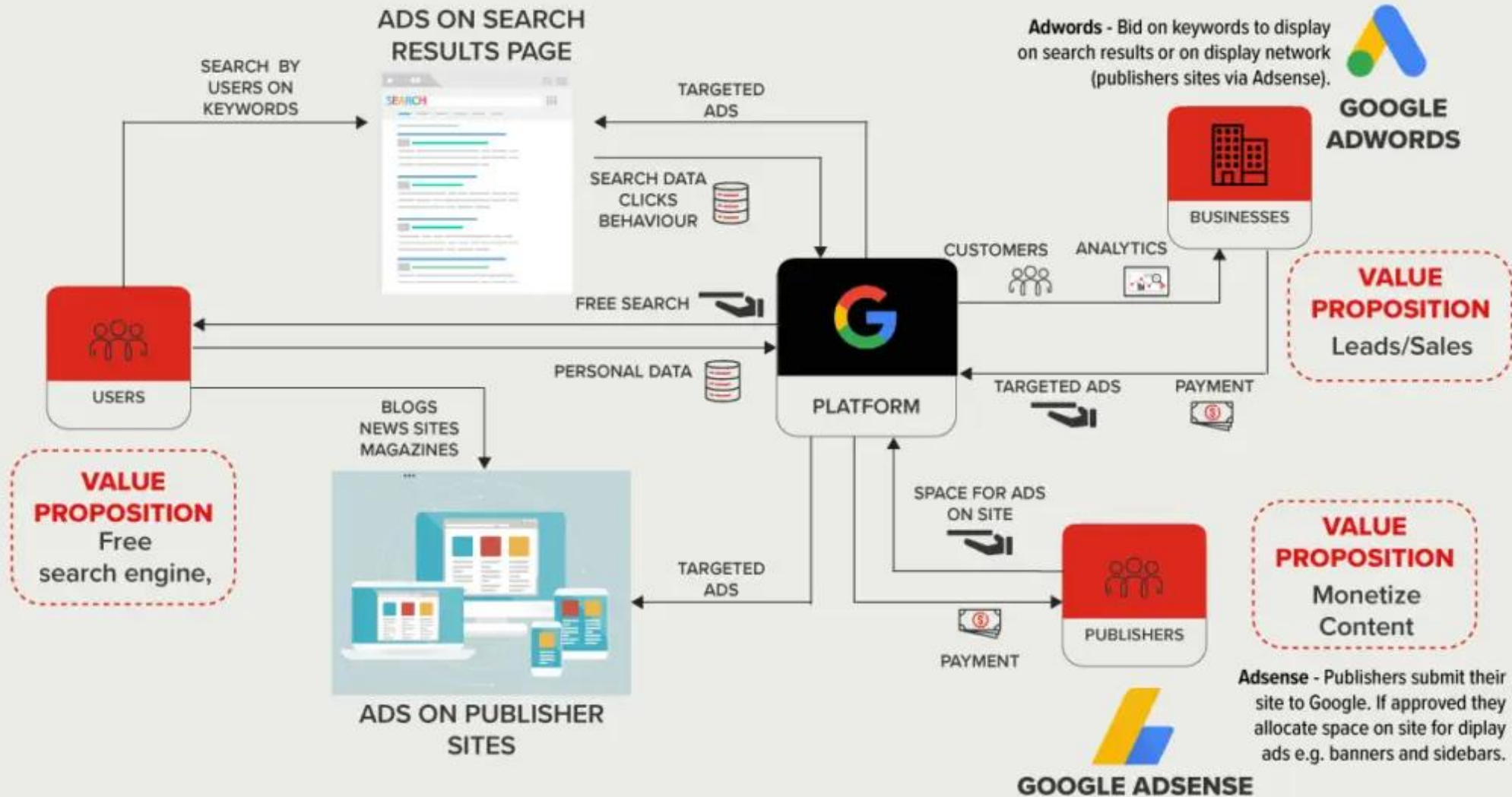
I'm Feeling Lucky

Google offered in: [Română](#) [magyar](#) [Deutsch](#)



GOOGLE BUSINESS MODEL

THE HIDDEN REVENUE BUSINESS PATTERN



Recoltarea datelor

11/16/2023

Controlul asupra datelor









Date colectate legal
(conform T&C)

Date captate clandestin, în umbra T&C
Imagini, texte recoltate fără copyright





Scurgeri, atacuri

Data Breaches in 2023




MOVEit Data Breach (May 2023)

-  **Individuals Impacted:** 17.5 million
-  **Sensitive Data:** PII
-  **Perpetrator:** Clop (Russian-linked group)
-  **Method:** SQL injection (CVE-2023-34362)
-  **Notable Victims:** Universities & Organizations
-  **Context:** Globally-used MFT software's critical vulnerability exploited, affecting various sectors.

Enzo Biochem Data Breach (April 2023)

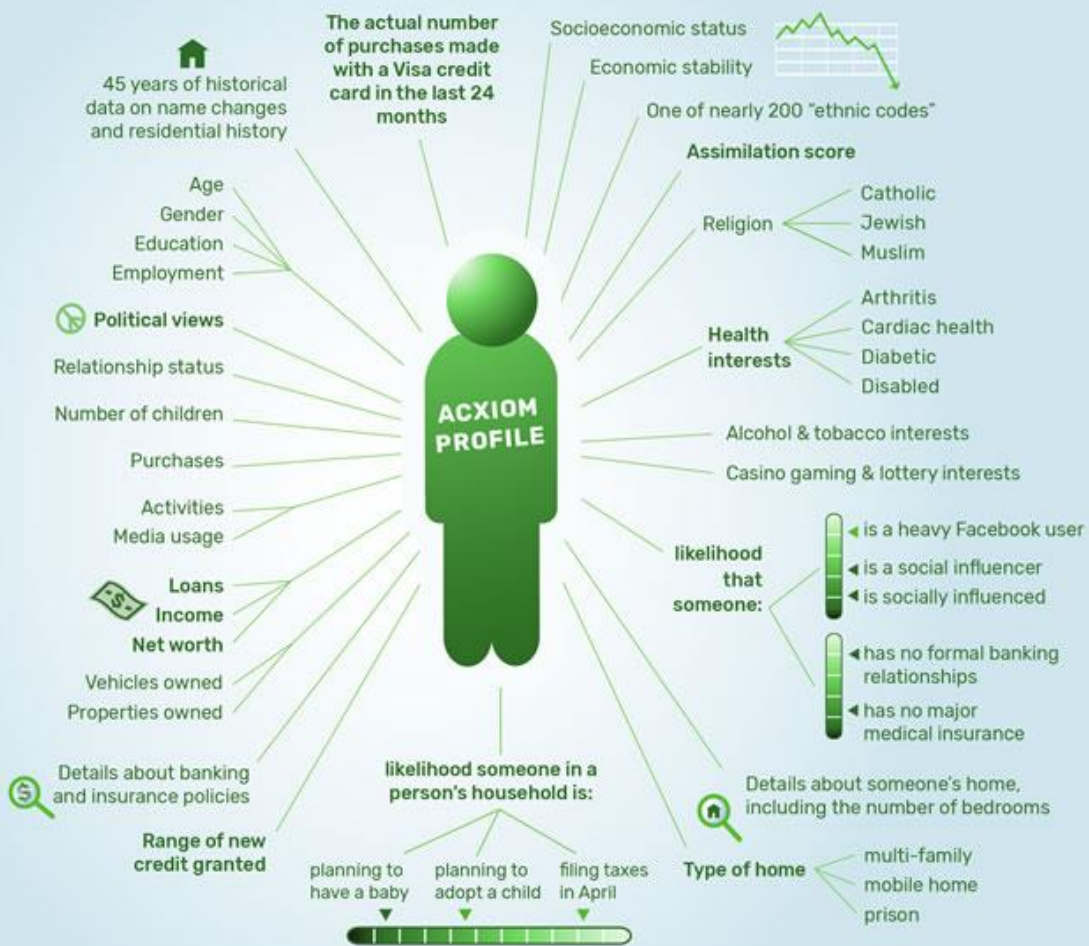
-  **Individuals Impacted:** 2.5 million
-  **Sensitive Data:** PII and potential medical data
-  **Perpetrator:** Unspecified (Ransomware attack)
-  **Context:** Pioneer in medical diagnostics and treatments experienced significant data compromise.

PharMerica Data Breach (March 2023)

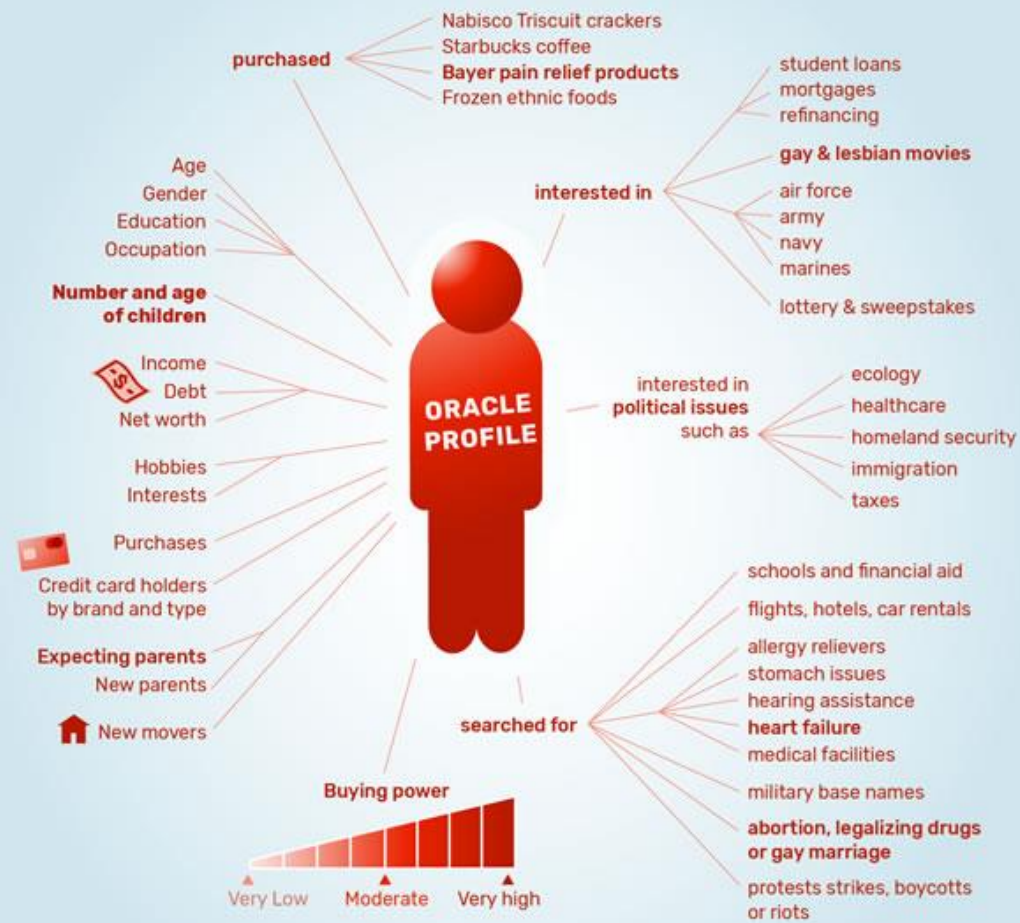
-  **Individuals Impacted:** 6 million
-  **Sensitive Data:** PII, healthcare-focused
-  **Perpetrator:** Money Message ransomware group

DATA BROKERS HAVE EXTENSIVE PROFILE INFORMATION ON ENTIRE POPULATIONS

Examples of data on consumers provided by Acxiom and Oracle



Acxiom provides of up 3,000 attributes and scores on 700 million people in the US, Europe, and other regions.



Oracle sorts people into thousands of categories and provides > 30,000 attributes on 2 billion consumer profiles

© Cracked Labs CC BY-SA 4.0, April/May 2017. Disclaimer: the mentioned companies typically keep information about their activities secret. This illustration is based on publicly available information by Acxiom and Oracle. Every effort has been made to accurately interpret and represent the companies' activities, but we cannot accept any liability in the case of eventual errors. Sources: Acxiom annual reports, developer website (API docs), Oracle press release, help center website, audience playbook, taxonomy updates for January, 2017 (Excel document). For details about the sources see the report "Corporate Surveillance in Everyday Life".

Mașinăria de supraveghere Oracle

Oracle claims it has & sells extensive data on 5 billion world citizens (out of 8)

A suit filed in Aug. 2022 in California by 3 privacy activists & researchers

Commenting on the suit in a statement, Ryan said: “Oracle has violated the privacy of billions of people across the globe. This is a Fortune 500 company on a dangerous mission to track where every person in the world goes, and what they do. We are taking this action to stop Oracle’s surveillance machine.”

Oracle’s ‘surveillance machine’ targeted in US privacy class action

Natasha Lomas @riptari / 3:19 PM GMT+3 • August 22, 2022

 Comment

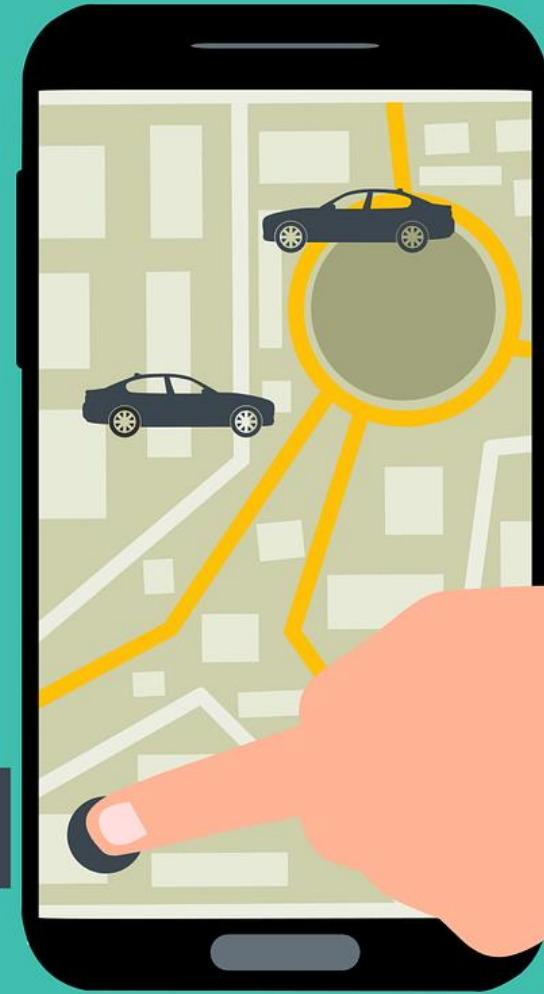


[Source](#), Aug 2022

A massive data breach at Uber?

- What would become **known** about us?
- What could be **inferred** about us?

confirm ride





ARTIFICIAL INTELLIGENCE

Roomba testers feel misled after intimate images ended up on Facebook

An MIT Technology Review investigation recently revealed how images of a minor and a tester on the toilet ended up on social media. iRobot said it had consent to collect this kind of data from inside homes—but participants say otherwise.

By Eileen Guo

January 10, 2023

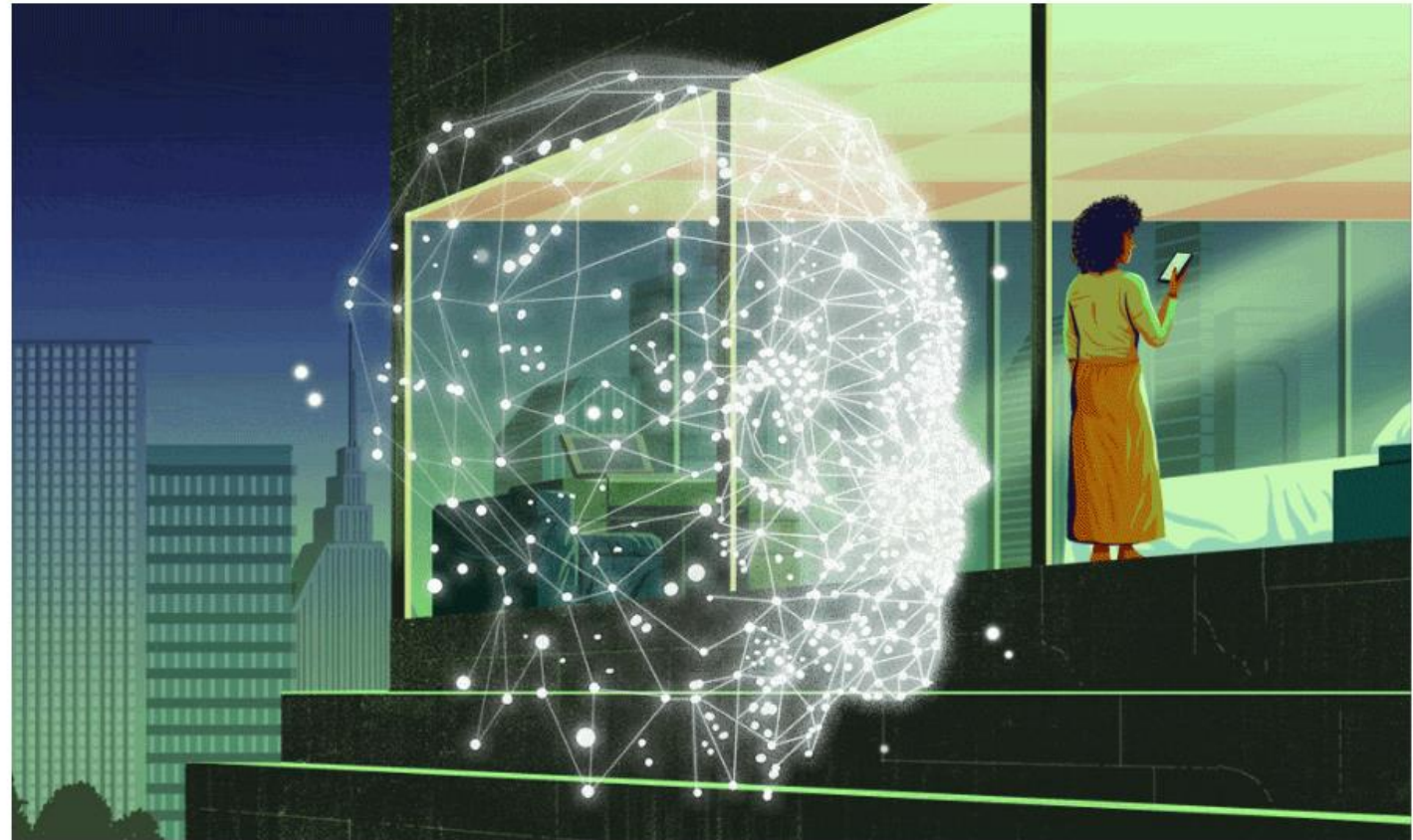


No etiquetas esta imagen, solo se proporciona como contexto. Haga clic en el botón cerrar o use la tecla 'esc' para cerrar. ✕



Tech surveillance when abortion is criminalized

- What data could be used against women prosecuted for abortion?
 - Online purchases (medicines, etc.)
 - Search history
 - Social media posts
 - Chat messages
 - Location history
 - GPS
 - Mobile signal
 - Image recognition on car plates



Glenn Harvey

Date captate de Facebook





You Give Apps Sensitive Personal Information. Then They Tell Facebook.

Wall Street Journal testing reveals how the social-media giant collects a wide range of private data from developers; 'This is a big mess'

By [Sam Schechner](#) and Mark Secada

Feb. 22, 2019 11:07 am ET

 SAVE  SHARE  TEXT

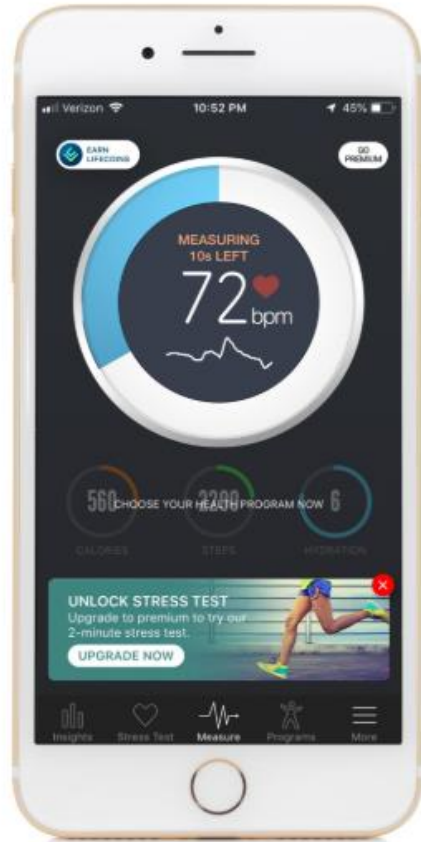
614 RESPONSES 

Millions of smartphone users confess their most intimate secrets to apps, including when they want to work on their belly fat or the price of the house they checked out last weekend. Other apps know users' body weight, blood pressure, menstrual cycles or pregnancy status.

Unbeknown to most people, in many cases that data is being shared with someone else: [Facebook Inc.](#) [FB -2.05%](#) ▼

The social-media giant collects intensely personal information from many popular smartphone apps just seconds after users enter it, even if the user has no connection to Facebook, according to testing done by The Wall Street Journal. The apps often send the data without any prominent or specific disclosure, the testing showed.

[WSJ](#), 2019



In the Journal's testing, Instant Heart Rate: HR Monitor sent a user's heart rate to Facebook.



In the Journal's testing, Flo Period & Ovulation Tracker told Facebook when a user was having her period.



In the Journal's testing, Realtor.com sent Facebook the location and price of listings that a user viewed.

PHOTOS: AZUMIO INC.; FLO HEALTH INC.; MOVE INC.; APPLE

[WSJ](#), 2019










Date captate de brokerii de date

- Cele 10 aplicații studiate au transmis date spre 135 terțe părți implicate in AdTech
- Android Advertising ID a fost transferat spre 70 terțe părți
- Alte date transmise: adresa IP, locația GPS, gen, vârstă, diferite activități ale utilizatorilor inclusiv date foarte sensibile (din aplicații de dating sau sănătate)



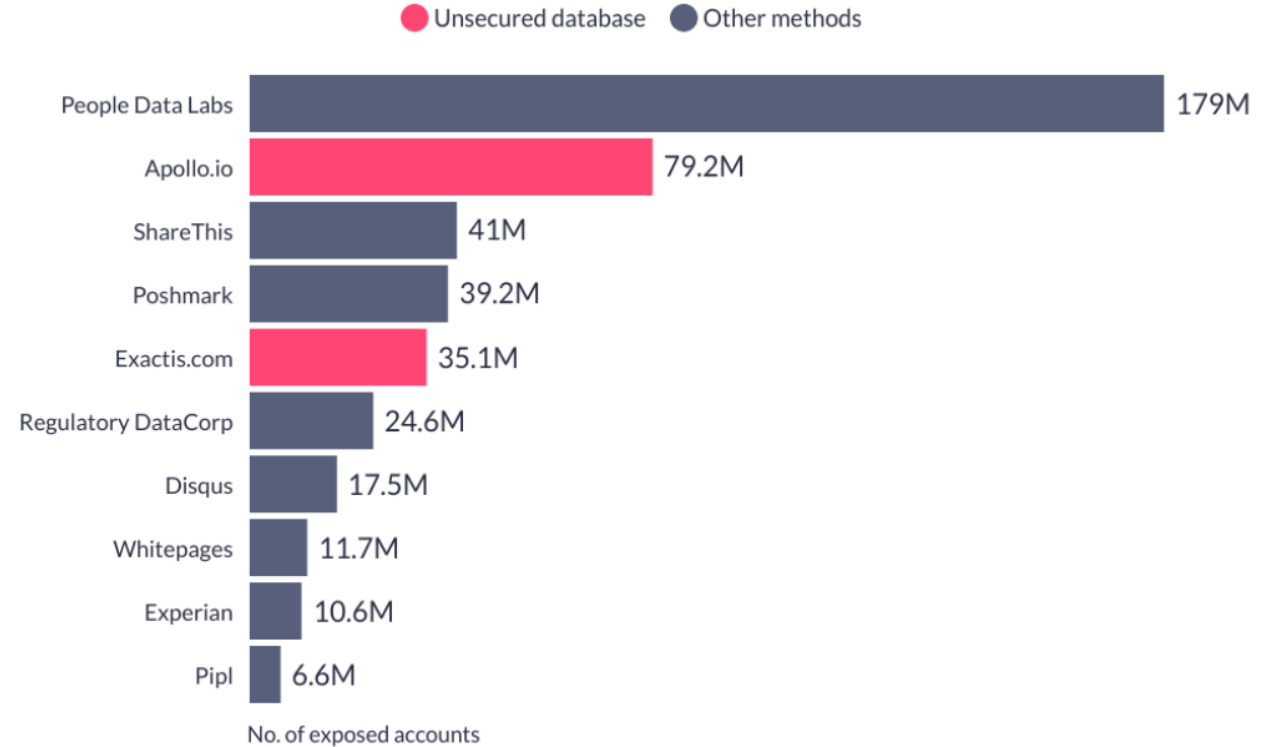
OUT OF CONTROL

How consumers are exploited by the online advertising industry

App	Summary of findings
 Clue	Sends birth year to Amplitude , Apptimize , and Braze . Sends Advertising ID to Adjust , Amplitude , and Facebook .
 Grindr	Sends GPS coordinates to AdColony , Braze , Bucksense , MoPub , OpenX , Smaato , PubNative , Vungle , and others. Sends the IP address to AppNexus and Bucksense , and information about "relationship type" to Braze . Sends Advertising ID to all of these third parties and others, except Braze .
 Happn	Sends country, gender and age segment of the user to Google . Sends Advertising ID to Adjust and Facebook .
 Muslim: Qibla Finder	Sends IP address to Appodeal . Sends Advertising ID to AppLovin , Appodeal , Facebook , and Liftoff .
 My days	Sends GPS coordinates and Wi-Fi access point information to Neura , Placed , and Placer . Sends IP address and a list of installed apps on the phone to Placed . Sends Advertising ID to AppLovin , Liftoff , Google , Ogury Presage , and Placed .
 My Talking Tom 2	Sends IP address to Mobfox , PubNative , and Rubicon Project . Sends Advertising ID to AppsFlyer , AppLovin , Facebook , IQzone , ironSource , Mobfox , Outfit7 , and Rubicon Project .
 OkCupid	Sends GPS coordinates and answers to personal questions to Braze . Sends detailed device information to AppsFlyer . Sends Advertising ID to AppsFlyer , Facebook and Kochava .
 Perfect365	Sends various location data such as GPS coordinates and Wi-Fi access point information to Fysical , Safegraph , and Vungle . Sends GPS coordinates unencrypted to Receptiv . Sends Advertising ID to Amazon , Chocolate , Facebook , Fluxloop , Fyber , Fysical , InMobi , Inner-Active , Ogury Presage , Safegraph , Receptiv , Unacast , Unity3d , and Vungle .
 Tinder	Sends GPS position and "target gender" to AppsFlyer and LeanPlum . Sends Advertising ID to AppsFlyer , Branch , Facebook , and Salesforce (KruX) .
 Wave Keyboard	Sends Advertising ID to Crashlytics , Facebook , Flurry , OneSignal .

Some of the biggest data broker breaches to date

Data enrichment companies can leak information about us to unprecedented levels.



Is the number of data broker data breaches on the rise?

Data broker breaches through the years



Massive breach: Shanghai Police, 2022



Zeyi Yang 杨泽毅
@ZeyiYang · Follow

Gigantic civilian data leak if confirmed: A hacker is selling an alleged Shanghai police data leak containing 1 billion Chinese nationals' names, home addresses, ID #, phone #, criminal records, etc. Hacker says it's from an Aliyun (Alibaba) private cloud server.



4:40 AM · Jul 3, 2022



Read the full conversation on Twitter

2.3K Reply Share

On Monday, an unusual voice joined in the analysis of the event: Changpeng Zhao, the CEO of cryptocurrency exchange Binance.

"CZ" – as he's known – took to Twitter with the following:



CZ Binance
@cz_binance · Follow

Our threat intelligence detected 1 billion resident records for sell in the dark web, including name, address, national id, mobile, police and medical records from one asian country. Likely due to a bug in an Elastic Search deployment by a gov agency. This has impact on ...

11:58 PM · Jul 3, 2022



Read the full conversation on Twitter

7K Reply Share

Read 40 replies

Massive breach: Aadhaar, India's ID database



The screenshot shows the top of a ZDNET article. The ZDNET logo is on the left, with the tagline "tomorrow belongs to those who embrace it today". Navigation icons for globe, search, user, and grid are on the right. Below the header is a breadcrumb trail: "Home / Innovation / Smartphones / Mobility". The main headline reads "A new data leak hits Aadhaar, India's national ID database". Below the headline is an "Exclusive" note: "The data leak affects potentially every Indian citizen subscribed to the database." A small profile picture of Zack Whittaker is shown next to the text "Written by Zack Whittaker, Contributor on March 23, 2018". Social media sharing icons for comment, LinkedIn, Facebook, and Twitter are visible. At the bottom left of the article preview, there is a "MANAGE COOKIES" button. The main image of the article shows a person's hand holding an Aadhaar card over a biometric scanner.

Known as Aadhaar, the government ID database is packed with identity and biometric information -- like fingerprints and iris scans -- on more than 1.1 billion registered Indian citizens, official [figures show](#).

Anyone in the database can use their data -- or their thumbprint -- to open a bank account, buy a cellular SIM card, enroll in utilities, and even receive state aid or financial assistance.

Even companies, like [Amazon](#) and [Uber](#), can tap into the Aadhaar database to identify their customers.



Security breach: Twitch

- Among the information hackers obtained and leaked were Twitch's source-code, internal security protocols, and earning records of many streamers. [1]
- Twitch's top streamers each made millions of dollars from the Amazon-owned company in the past two years. [2]



Massive breach & long-term hacking: Syniverse

MOTHERBOARD
TECH BY VICE

Company That Routes Billions of Text Messages Quietly Says It Was Hacked

Syniverse handles billions of text messages a year, and hackers had unauthorized access to its system for years.

By [Lorenzo Franceschi-Bicchieri](#)

October 4, 2021, 6:59pm [Share](#) [Tweet](#) [Snap](#)

A company that is a critical part of the global telecommunications infrastructure used by AT&T, T-Mobile, Verizon and several others around the world such as Vodafone and China Mobile, quietly disclosed that hackers were inside its systems for years, impacting more than 200 of its clients and potentially millions of cellphone users worldwide.



Recunoașterea facială masivă – Clarivate AI


WIREED MY ACCOUNT SUBSCRIBE

WILL KNIGHT BUSINESS OCT 4, 2021 7:00 AM

Clearview AI Has New Tools to Identify You in Photos

In an interview with WIRED, CEO Hoan Ton-That said the company has scraped 10 billion photos from the web—and developed new ways to aid police surveillance.

f t e b



[Source](#), Oct. 2021

REUTERS World Business Legal Markets More


My View Following Saved

Technology

4 minute read · March 14, 2022 11:12 PM GMT+2 · Last Updated 7 months ago

Exclusive: Ukraine has started using Clearview AI's facial recognition during war

By Paresh Dave and Jeffrey Dastin



[Source](#), March 2022

ChatGPT image to text tool

- It can suggest recipes from a photo of your fridge, but...
- It can possibly become a tool of massive facial recognition



What is in this image?



ChatGPT

The image shows a platter with four grilled Romanian mici (also known as mititei), which are caseless sausages, alongside a serving of French fries and a small bowl of mustard. The mici are cylindrical and have visible grill marks, indicating they have been cooked over an open flame. The French fries appear to be a classic cut and golden-brown in color, suggesting they are crispy. The mustard in the bowl has a smooth consistency, which is commonly served as a condiment with mici. The food is presented on a wooden board, which is typical for rustic or casual dining experiences.

[Source](#), 2023

Severe implications of facial recognition

- “In 2016, Georgetown Law researchers estimated that approximately one out of four state and local law enforcement agencies had access to the technology”
- “In response to privacy and ethical concerns, and after the protests over George Floyd’s murder in 2020, some technology companies, including Amazon, Microsoft, and IBM, pledged to either temporarily or permanently stop selling facial recognition technologies to law enforcement agencies.”

Lee and Chin (2022)



Project Megapixels – investigating datasets

- Over 24 million non-cooperative, non-consensual photos in 30 publicly available face recognition and face analysis datasets
 - Over 15 million face images are from Internet search engines, over 5.8 million from Flickr.com,
 - over 2.5 million from the Internet Movie Database (IMDb.com)
 - nearly 500,000 from CCTV footage
 - Over 6,000 of the images were from US, British, Italian, and French embassies (mostly US embassies)
- All images were collected without any explicit consent ("in the wild")
- Only about 25% of the citations are from the United States while the majority are from China

TRANSNATIONAL FLOWS OF FACE RECOGNITION IMAGE TRAINING DATA



An image from the MegaFace face recognition training dataset taken from the U.S. Embassy of Madrid Flickr account

Project Megapixels













- “several computer vision image datasets created by US companies and universities were unexpectedly also used for research by the National University of Defense Technology in China, along with top Chinese surveillance firms including SenseTime, SenseNets, CloudWalk, Hikvision, and Megvii/Face++ which have all been linked to oppressive surveillance in the Xinjiang region of China”



An image from the MegaFace face recognition training dataset taken from the U.S. Embassy of Madrid Flickr account

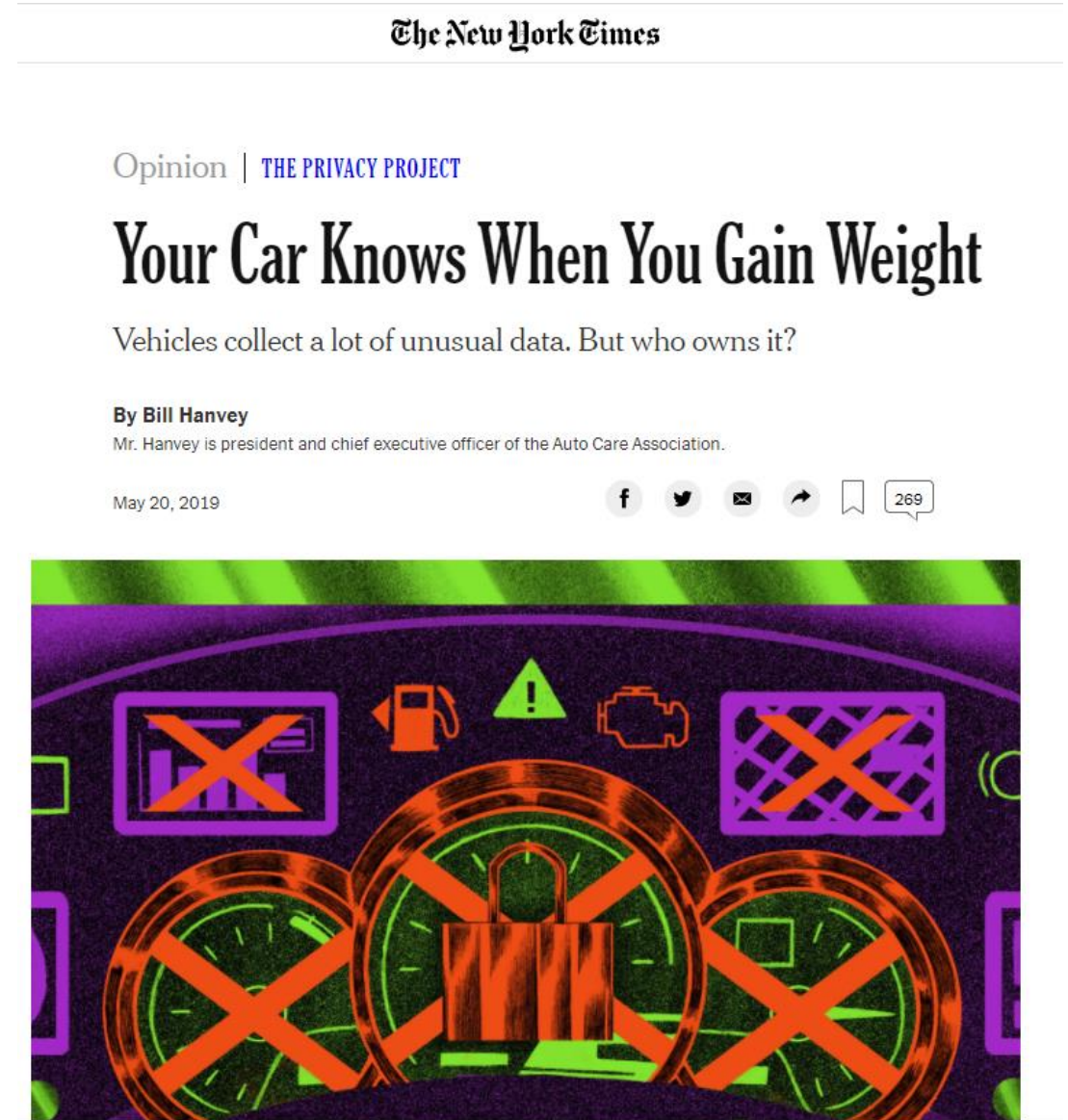
**TRANSNATIONAL FLOWS OF FACE
RECOGNITION IMAGE TRAINING DATA**

Cars are a privacy nightmare – Mozilla, 2023

-  **Widespread Data Collection:**
 -  **Concern:** All 25 car brands studied failed Mozilla Foundation's privacy tests.
 -  **Usage:** 21 brands share, review, or sell collected data.
-  **Intimate & Unexpected Data Points:**
 -  **Findings:** Six companies can collect extremely personal information, like medical and genetic data.
 -  Nissan includes data regarding "sexual activity".
 -  Kia can process information about your "sex life," "political opinions," "religious beliefs," and even "trade union membership".
-  **Exploitation & Future Implications:**
 -  **Use Case:** Data utilized to infer aspects like intelligence and interests, fueling a \$1.5tn potential market in new services (according to McKinsey).
 -  **Security Issues:** Tesla, facing previous criticisms, failed all review areas - including security and data control.
-  **Resistance & User Control:**
 - **EU Leadership:** Renault & Dacia (Europe-based) were the only brands allowing **users to delete their personal data**, compliant with GDPR.
 -  **Security:** Inability to confirm if any brand meets minimum security standards.

Date captate de maşini

- Cars not only know how much we weigh but also track how much weight we gain. They know how fast we drive, where we live, how many children we have — even financial information. Connect a phone to a car, and it knows who we call and who we text.
- But who owns and, ultimately, controls that data? And what are carmakers doing with it?



Date captate de paturi



TIME

SUBSCRIBE

HEALTH

A Wake-Up Call On Smart Beds And Sleep Apps That Collect Your Data



BY JULIE APPLEBY / KAISER HEALTH NEWS MAY 29, 2019 9:52 AM EDT

Your bed could be watching you.

OK, so not with a camera. At least not yet.

But if you have any of a variety of “smart beds,” mattress pads or sleep apps, it knows when you go to sleep. It knows when you toss and turn. It may even be able to tell when you’re having sex.

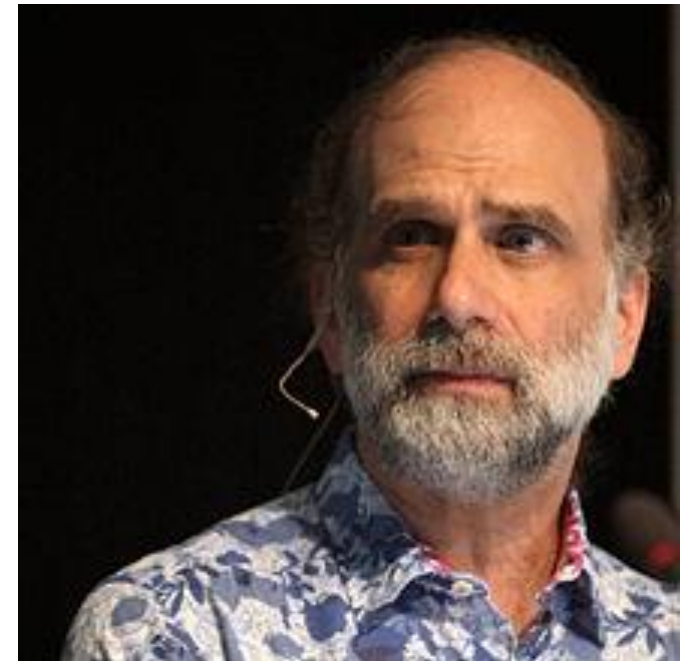
Sleep Number, one company that makes beds that can track heart rate, respiration and movement, says it collects more than 8 billion biometric data points every night, gathered each second and sent via an app through the internet to the company’s servers.

“This gives us the intelligence to be able to continue to feed our algorithms,” CEO Shelly Ibach **told attendees** at a Fortune Brainstorm Health conference in San Diego last month.

[Source](#)

Bruce Schneier: Date captata de frigidera

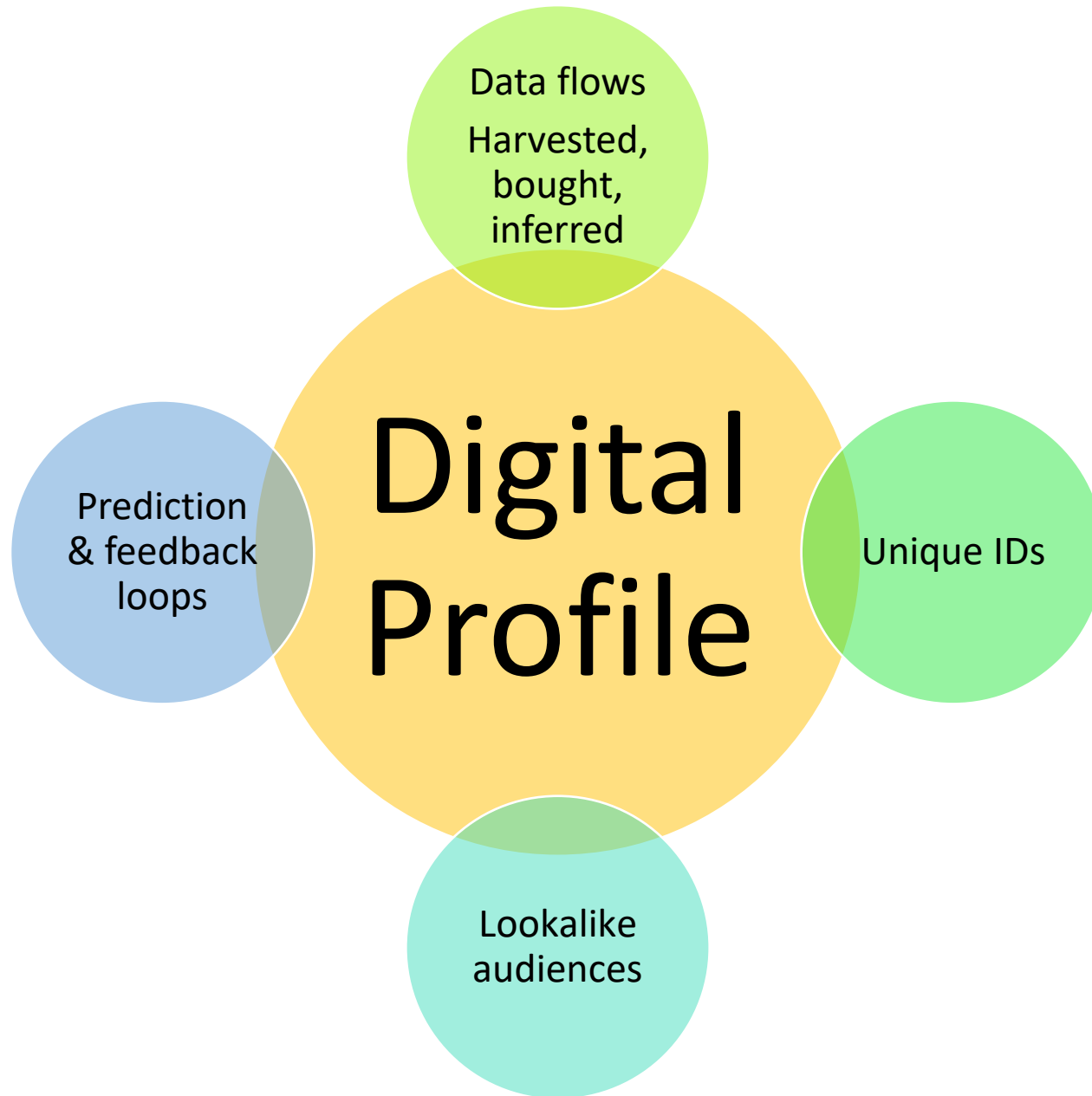
- „Last year, when my refrigerator broke, the serviceman replaced the computer that controls it. I realized that I had been thinking about the refrigerator backwards: it's not a refrigerator with a computer, it's **a computer that keeps food cold.**”



Profiluri digitale

- Urme digitale procesate prin ML
 - Factice și inferate
 - Cumpărate și consolidate
 - Cvasi-anonime: Unique ID
- Individualizate și colective
 - Ce facem noi
 - Ce fac cei din „audiențe similare” (lookalike audiences)





Avem oare un geamă
zombie digital?



Social Dilemma



Shoshanna Zuboff: Surveillance capitalism

- Data – Prediction products – Behavior modification
 - Business model
 - Scale
 - Consolidation
- Interviews: [The Intercept](#), [The Guardian](#)

[Log in](#) [Join](#)

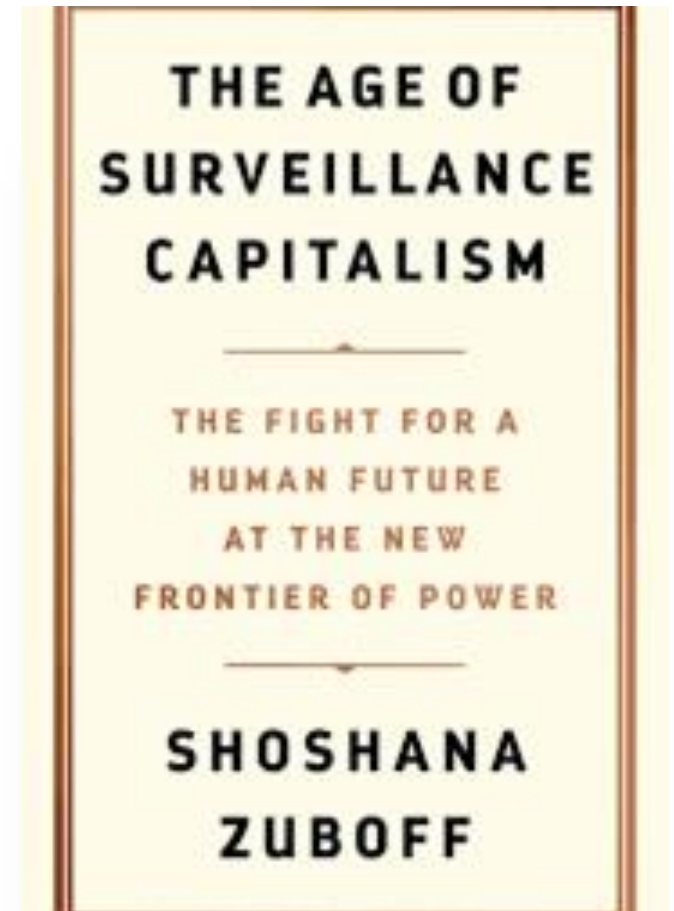
 Facebook  Google

[Log in](#)



Surveillance capitalism

- “Once we searched Google, but now Google searches us. Once we thought of digital services as free, but now surveillance capitalists think of us as free.”
- “Economies of action”: systems designed to modify our behavior for commercial outcomes
- “It is no longer enough to automate information flows about us; the goal now is to automate us.”
- “We are trapped in an involuntary merger of personal necessity and economic extraction”



Frederike Kalthener Privacy International report

- “More than 600 apps had access to my iPhone data” ([BBC interview](#))
- “Over the course of a single week, Quantcast has amassed over 5300 rows and more than 46 columns worth of data including URLs, time stamps, IP addresses, cookies IDs, browser information and much more” ([PI investigation](#))



The image shows a screenshot of a data table with a large number of columns and rows. The table is organized into several sections, with the first section containing a large block of text. The text is mostly blue and appears to be a list of URLs or identifiers. The table has a header row and several columns of data. The bottom of the table has a navigation bar with buttons for 'History', 'Inferred', 'Partner Data', and a plus sign. The table is very dense with data, and the text is small and difficult to read.

Invasion story

- Datele sunt “bizar de specifice”
- Prezise/inferate: gender, age, number of children and their ages, education level, and gross yearly household income
- Travel and leisure to Canada
- Frequent transactions in Bagel Restaurants
- City Prosperity:World-Class Wealth
- Alcohol at Home Heavy Spenders
- Baby Nappies & Wipes
 - “wrong, very wrong”

([PI investigation](#))



- “It is impossible for me to understand why I am classified and targeted the way I am;
- It is impossible to reconstruct which data any of these segmentations are based on and - most worryingly –
- It is impossible for me to know whether this data can (and is) being used against me.”

[\(PI investigation\)](#)

DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Hobbies & Interests:Beauty & Style:Jewellery
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Travel & Leisure:Destinations:Asia
DATA_SEGMENT:Acxiom UK:Shopping Interests:Psychographics & Lifestyles:Lifestyle:Interest in Cultural Pursuits
DATA_SEGMENT:Oracle Data Cloud - MasterCard UK:Shopping Interests:Travel & Leisure:Destinations:Africa
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Media Interests:TV:Genres:News
DATA_SEGMENT:Acxiom UK:Shopping Interests:Finance:Investment Services:High Investment Activity
DATA_SEGMENT:Oracle Data Cloud - Affinity Answers (UK):Shopping Interests:Social Affinity:Food & Beverage:Cow & Gate
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Consumer Electronics:Brand Affinity:Toshiba
DATA_SEGMENT:Oracle Data Cloud - Experian UK:Shopping Interests:Psychographics & Lifestyles:Mosaic UK:Rural Reality
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Finance:Financial Services:Investing Seekers:College Savings
DATA_SEGMENT:Oracle Data Cloud - MasterCard UK:Shopping Interests:Travel & Leisure:Destinations:Northern Europe
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Hobbies & Interests:Internet & Online Activities:Social Influence
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Shopping Interests:Automotive:In Market Make:BMW
DATA_SEGMENT:Acxiom UK:Shopping Interests:Psychographics & Lifestyles:Lifestyle:Interest in Gym/Classes
DATA_SEGMENT:Acxiom UK:Shopping Interests:Travel & Leisure:Travel Activities:World Travel as a regular hobby
DATA_SEGMENT:Oracle Data Cloud - MasterCard UK:Shopping Interests:Services:In Market:Hair Care & Beauty Salons
DATA_SEGMENT:Oracle Data Cloud - MasterCard UK:Shopping Interests:Retail:In Market:Jewellery & Giftware
DATA_SEGMENT:Oracle Data Cloud - Datalogix UK:Shopping Interests:Psychographics & Lifestyles:Personas:Avid Readers
DATA_SEGMENT:Oracle Data Cloud - Affinity Answers (UK):Shopping Interests:Social Affinity:Consumer Products:Aveeno
DATA_SEGMENT:Oracle Data Cloud - Oracle UK:Business & Consumer Goods:Consumer Goods:IT/Technology



A large crowd of people, mostly yellow, with some colorful figures in the foreground. The text "Reacții civice și legale" is overlaid in the center.

Reacții civice și legale

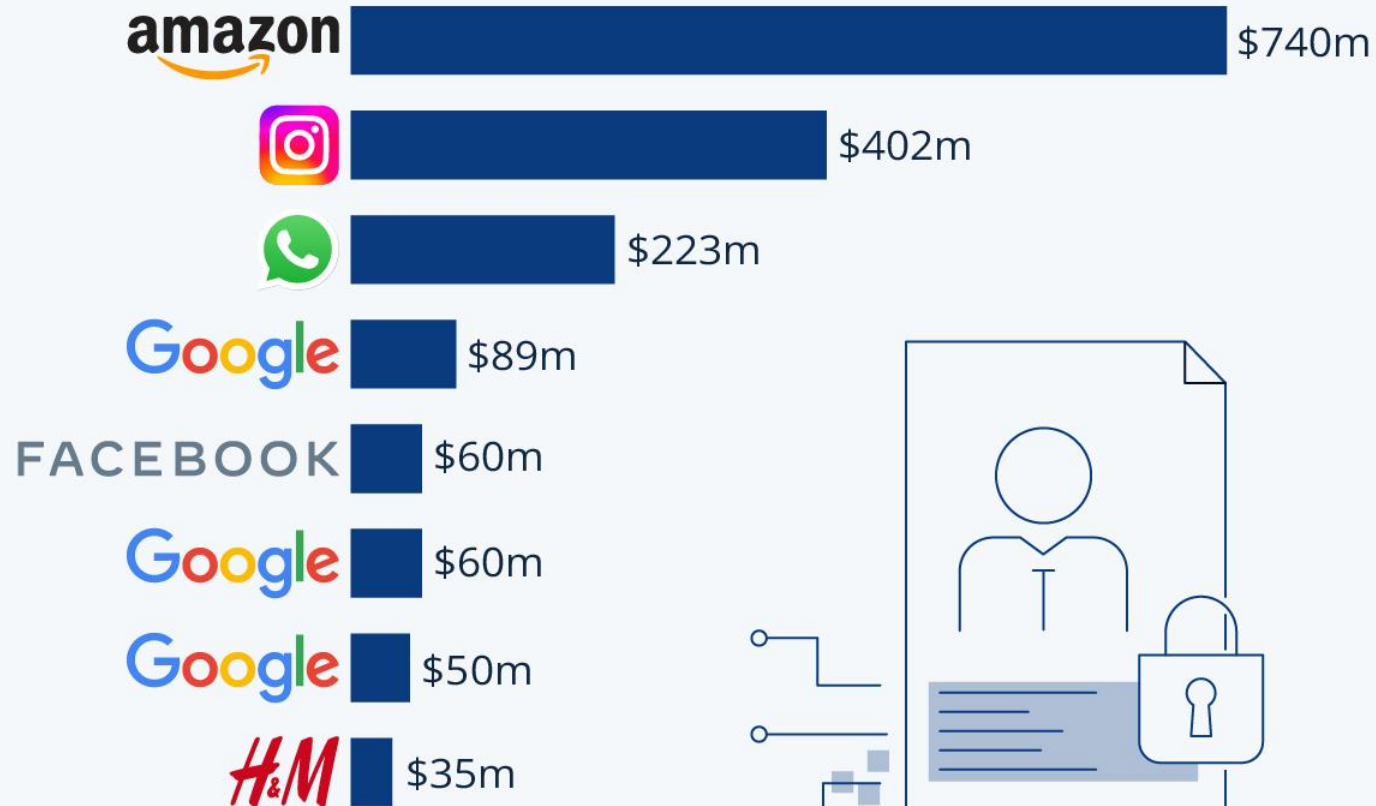
Reacții civice și legale



- Reglementări legale
 - The [Digital Services Act](#) in EU – from 2024
 - The [GDPR](#) in EU – since May 25th, 2018
 - The California Consumer Privacy Act ([CCPA](#)) – since January 1st, 2020
- Investigații anti-trust
 - Ex. EU anti-trust decisions against Google (2017, 2018, [2019](#), [2022](#))
 - US House Judiciary Committee investigation on Google, Facebook, Amazon and Apple ([Sept. 2020 Report](#))
 - US antitrust cases ([Source](#)) – eg [California against Amazon, 2022](#)
- Acțiune colectivă prin ONG-uri

Big Tech, Big Fines

Highest fines for breaching one or more articles of the General Data Protection Regulation*

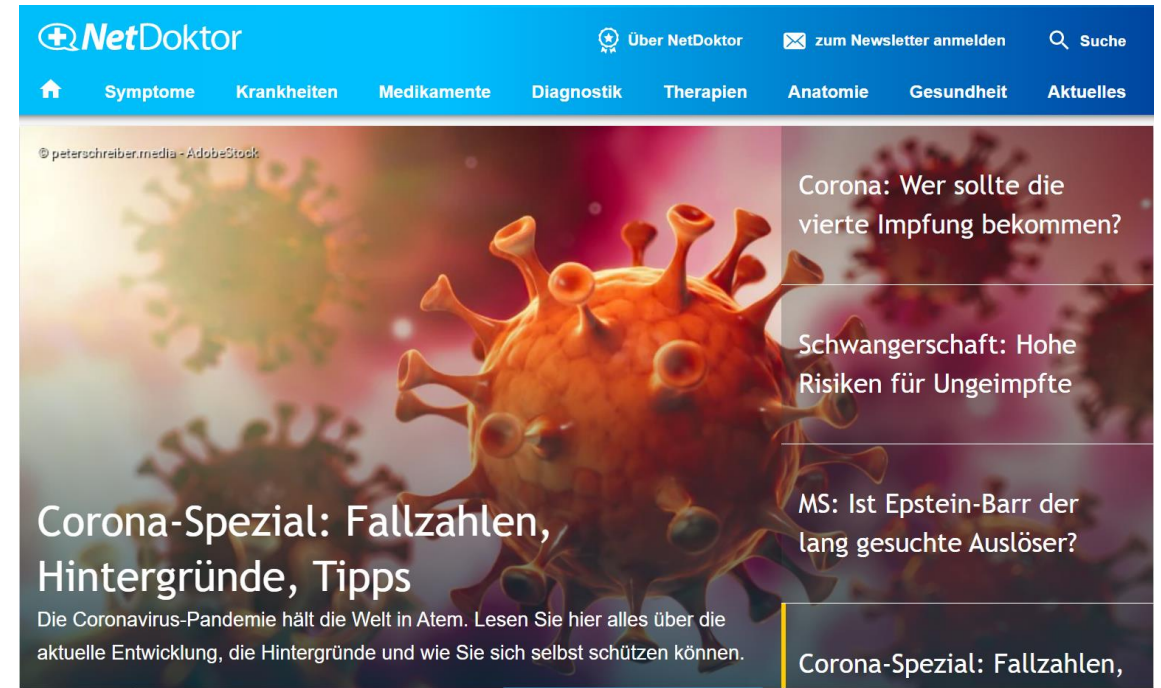


* Currency converted on Sep 6, 2022
Source: CMS GDPR Enforcement Tracker



GDPR vs Google Analytics

- Dec. 2021: The use of Google Analytics on NetDoktor violates GDPR (Austrian Data Regulator) ([Wired](#))
- Dec. 2021: European Parliament's Covid-19 testing website breached GDPR by using cookies from Google Analytics and Stripe (European Data Protection Regulator) ([Wired](#))
- July 2020: Privacy Shield, use to transfer data from EU to US, is invalid (European Court of Justice) ([Wired](#))
- Data are not protected from access by US intelligence agencies



EU-US Data Transfers

Since 2013 this case on US mass surveillance and EU companies feeding into it, is pending. ...

[Read more](#)

Forced Accounts

Many companies take advantage of the digitalisation of their services and collect far more data about their customers than necessary. ...

[Read more](#)

Forced Consent (DPAs in Austria, Belgium, France, Germany and Ireland)

When relying on consent as a legal basis to process personal data, companies need to comply with the stringent requirements contained in the GDPR. ...

[Read more](#)

Right to rectification (Art 16 GDPR)

There is a basic right for every user to request their data to be corrected in case of inaccuracies: quickly, easily, and free of charge. ...

[Read more](#)

Streaming Services

In 2018, data subjects represented by *noyb*, submitted requests to access information about their data with eight streaming services. ...

[Read more](#)

noyb

[News](#) [Projects](#) [Resources](#)

Current Enforcement Projects

Advertising IDs

We all use smart-phones. With them we surf the Internet, do research and download and use apps. ...

[Read more](#)

Cookie Banners

Cookie banners are regulated under the ePrivacy directive. ...

[Read more](#)

Credit Scoring

Credit scoring is the practice of giving individuals a credit worthiness score in order to determine whether to lend them money or extend a post-paid service ...

[Read more](#)

Data Portability (Art 20 GDPR)

Data portability empowers individuals to receive personal data they provided to the controller and, where technically feasible, to request this p ...

[Read more](#)

Dating Apps

Dating apps are gaining popularity, especially after Covid-19. ...

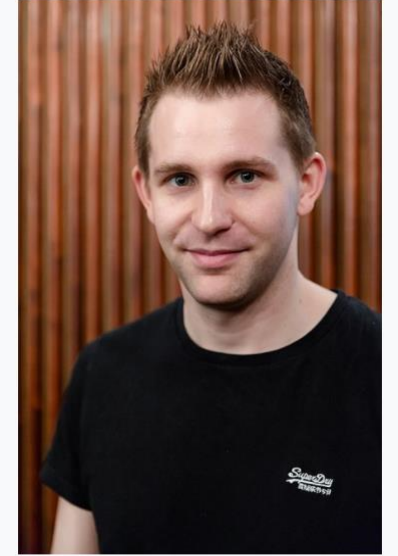
[Read more](#)

Encryption - Privacy by Design

Our emails always contain personal data. ...

[Read more](#)

Max Schrems



Max Schrems in 2016

Born Maximilian Schrems
October 1987 (age 34)
[Salzburg, Austria](#)

Education Law, [University of Vienna](#)

Occupation Lawyer, author, privacy activist

Organization [NOYB – European Center for Digital Rights](#)

Known for Privacy activism

Privacy activism: noyb.eu
My privacy is none of your business



Buy a phone, get a tracker: unauthorized tracking code illegally installed on Android phones

As reported by the [Financial Times](#), *noyb* launched further action against Google's AAID (Android Advertising Identifier), following similar [complaints against Apple's IDFA](#). The somewhat hidden ID allows Google and all apps on the phone to track a user and combine information about online and mobile behaviour. While these trackers clearly require the users' consent (as known from "cookie banners"), Google neglects this legal requirement. *noyb* therefore filed a complaint against Google's tracking code AAID.

[Source](#)

- [Complaint filed to the Data Protection Authority of France \(PDF\)](#)

1. Amazon GDPR fine – €746 million

On July 16, 2021, the **Luxembourg National Commission for Data Protection (CNDP)** issued the **biggest fine ever for the violation of the GDPR** in the amount of **€746 million (\$888 million)** to **Amazon.com Inc.**

The fine was issued as a result of a complaint filed by 10,000 people against Amazon in May 2018, through a French privacy rights group that **promotes and defends fundamental freedoms in the digital world- La Quadrature du Net.**

The CNPD opened an investigation into how Amazon processes personal data of its customers and found infringements regarding Amazons' advertising targeting system that was carried out without proper consent.

[Source](#)



La Quadrature du Net

ABOUT US

La Quadrature du Net (LQDN) promotes and defends fundamental freedoms in the digital world. We fight against censorship and surveillance, both from States or private companies. We questions how the digital world and society influence each other. We work for a free, decentralised and empowering Internet.

Contact

Follow LQDN

[Source](#)

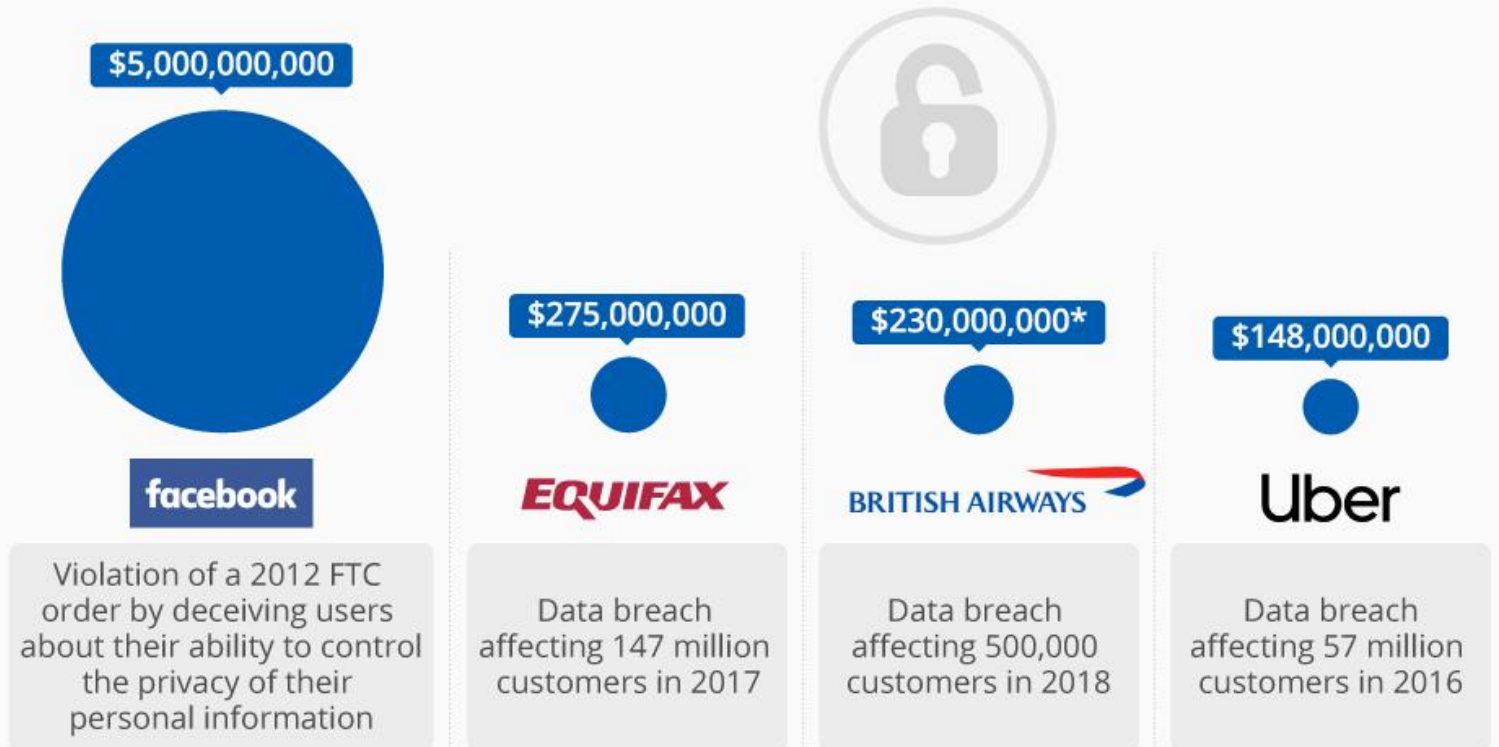
Federal Trade Commission privacy fines

- Human rights (EU) vs. consumer choice (US)
- “Despite repeated promises to its billions of users worldwide that they could control how their personal information is shared, Facebook undermined **consumers’ choices**”

[Source](#)

FTC Slaps Facebook With Record Privacy Penalty

Highest penalties in privacy enforcement actions (as of July 25, 2019)



CC BY ND
@StatistaCharts

* Fine proposed by the UK's Information Commissioner's Office, still subject to appeal from British Airways.

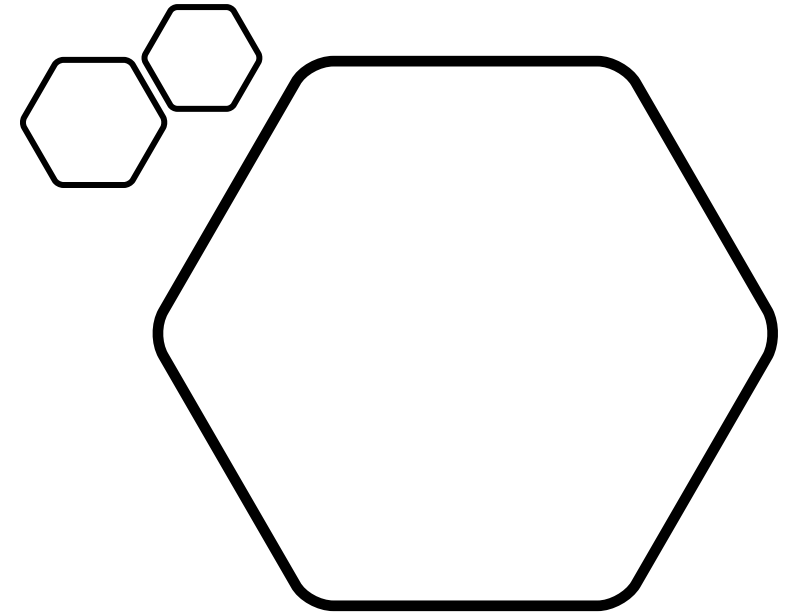
Source: Federal Trade Commission

statista

[Source](#)

Concluzii

- Tehnicile de analiză a datelor identifică patternuri
- Capitalismul supravegherii se bazează pe personalizare prin...
 - Colectarea masivă de date personale
 - Agregarea de profiluri digitale individuale
 - Țintirea prin mesaje comerciale, politice personalizate
 - Predicția & imitarea creativității umane: generative AI
- Google: extinderea modelului de business AdSense bazat pe personalizare prin datele din cuvintele cheie
 - Evoluția AdTech și a profilării digitale
- Controverse
 - Degradarea autonomiei individuale
 - Discriminarea algoritmică
 - Înlocuirea indivizilor prin predicția gândirii umane



Bibliografie

- [1] Wolfie Christl, 2017. [Corporate Surveillance in Everyday Life](#). Cracked Labs.
- [2] John Naughton, 2019, ['The goal is to automate us': welcome to the age of surveillance capitalism](#)
- [3] Norwegian Consumer Council 2020. [Out of control. How consumers are exploited by the online advertising industry.](#)
- [4] NYTimes – [The Privacy Project](#)
- [5] Frederike Karltheuner, Privacy International, [“I asked an online tracking company for all of my data and here's what I found”](#)

Extra time