

Critical data literacy tools for advancing data justice: A guidebook

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About this guidebook

This guidebook is intended to provide anyone interested in critical data literacy with an upto-date overview of a range of different types of data literacy tools available, keeping a diversity of audiences and skill levels in mind. The literacy tools in this guidebook are resources that are freely available for anyone to use and which educate citizens about datafication and its social consequences, by explaining relevant topics in an engaging way and by facilitating active participation in datafied society.

For each tool page there is a brief explanation of how the tool works and how to use it, followed by a suggestion of which audiences (non-experts, civil society, communities, teachers etc.) and contexts the tool is most suitable for based on what the tool creators have indicated. For instance some of the tools can be used widely, whereas others have more specific applications. Further, the "What you'll need" section indicates if any prior skills are necessary to use the tool, whether additional resources such as pens, paper and print-outs are required and, where applicable, how much time is needed to use the tool. Finally, every tool page has a "Literacy outcome" section that highlights what citizens will gain from using each tool, for example greater critical understanding or privacy tips that can be implemented on their device(s).

Tool selection rationale

All fourteen tools in this guide have been selected on the basis that they contribute to critical data literacy in some way, broadly defined as the ability to critically engage with datafication by reflecting on the societal implications of data processing and implementing this understanding in practice.¹ Other tools were selected, however, because they address current gaps or shortfalls that we have observed in approaches to data literacy such as attention to how collective dynamics can be encouraged, mechanisms for civic participation, understandings of public sector uses of data and algorithms, and practical applications of critical thinking.

Typology of tools

There are six categories of literacy tools in this guidebook, defined in terms of how they educate or engage citizens in relation to data issues: through workshops, interactive learning, investigations, using data for participation, quick practical guides and longer indepth guides. These definitions are overlapping, however, as some of the tools could be placed in more than one category.

¹ The guidebook draws from and updates previous research by Sander. For a discussion of 'critical big data literacy' see Sander, I. (2020). What is critical big data literacy and how can it be implemented?. Internet Policy Review, 9(2). DOI: 10.14763/2020.2.1479. For a comprehensive mapping and commentary of data literacy tools see research by Sander, including some of the tools that were defined as 'critical big data literacy tools' in her 'Critically Commented Guide to Data Literacy Tools' (2019) available at: https://zenodo.org/record/3241422#.XuJpw1VKjIU.

1. Workshop resources

These can be used to facilitate workshops and are best for groups and communities because they encourage collective thinking about data. The **Digital Defense Playbook (page 4)** helps affected communities to think about collective strategies of resistance to and protection from the surveillance state. The **Unbias Fairness Toolkit and Youth Jury Resource Pack** (page 5) can be used to facilitate workshops and jury-style discussions on the topic of algorithmic bias and fairness. The **Algorithmic Ecology (page 6)** is an analytical tool and framework for organising community resistance to algorithms.

2. Interactive learning tools

The three tools in this category educate citizens by visualising or simulating data driven systems to create an interactive experience. Automating NYC (page 7) is an interactive website that uses real-world examples of algorithms to visually explain how they work and the real impact they had on New York City residents. Do Not Track (page 8) is a short interactive documentary series that uses the viewer's data to explain online tracking. Pre-Crime: Predictive Policing Simulator (page 9) also uses real-world algorithms to simulate a gamified predictive policing experience in which the viewer is both the citizen being scored by "Agatha" the algorithm, and the data scientist trying to perfect the system to reduce crime.

3. Investigation tools

Data Scores Investigation Tool (page 10) and **Algorithm Tips (page 11)** are designed to help citizens, and especially researchers and journalists, to further investigate public sector uses of data systems in the UK and US respectively. They are both accessible databases with easy-to-use search functions.

4. Participation tools from algorithmic accountability projects

These two research projects invite citizens to participate in holding platform algorithms to account. Algorithms Exposed (page 12) and Algorithm Watch (page 13) have both developed browser plug-ins that anyone can download and which work by "donating" user data from Amazon, YouTube, Facebook and Instagram to the projects. Algorithms Exposed is particularly useful for researchers and data scientists who are interested in personalisation algorithms and can use the project's Github to examine results from the project.

5. Quick guides for implementing stronger privacy

These are a set of technical steps that citizens can easily and quickly implement to optimise settings on their device(s) for stronger data privacy. I Have Something To Hide (page 14) offers a "data protection toolkit" and Privacy International (page 15) have produced a guide to minimising targeted advertising on nine different platforms. These tools are good for providing individuals with more privacy and control.

6. In-depth guides to data protection and the data economy

These are comprehensive guides which require more reading and provide thorough introductions to their given topic, but which also have a focus on the practical application of the learning they offer. Your Data Your Rights (page 16) guides citizens through the fundamental GDPR rights using text and video, and provides template letters to send to data controllers to exercise these rights. Me and My Data Shadow (page 17) is no longer being updated but still offers a comprehensive overview of what digital footprints are and how they can be used to discriminate, while also offering a number of practical ways to control data shadow "traces" and resources for educators like training session plans.

1. Workshop resources

A). Digital Defense Playbook: Community Power Tools for Reclaiming Data

A workbook of popular education activities focused on data, surveillance and community safety that can be used to co-create tools and knowledge for data justice.

Tool type: Workshop resource Creator: Our Data Bodies (2018) URL: https://www.odbproject.org/tools/

How it works

This playbook has been designed to facilitate workshops with local communities and is split into different sections that cover a good range of data-related topics through group activities. There are over 80 pages of guidance, worksheets and tips from ODB's research that can be implemented by the workshop facilitator. Each activity is fully planned out with suggested timings, goals to achieve and supplies needed. The Playbook can be used as a series of community-based workshops or as individual, stand-alone workshops.

Who is this tool good for?

- ✓ Organisations and communities involved in social justice causes, as the playbook helps to understand and address the impact of databased technologies on social justice work.
- ✓ Members of marginalized communities, including People of Colour, poor, trans, Queer, unhoused and previously incarcerated people.

DATA BODY CHECK-UPS

WORKSHEET: Mapping Your Data Self

- 1. In the image of the body below, write all of the different types of digital information collected about you.
- If two or more points of data are collected electronically by the service, item, entity etc., draw connecting lines from the images surrounding your data body to your data body.

Draw connecting lines between the entities that share your information with each other. Examples: your school might collect your license plate information for pairing





What you'll need

- $\sqrt{}$ Workshop participants and facilitator(s).
- $\sqrt{}$ A neutral space like a community centre.
- $\sqrt{}$ At least two hours each workbook session runs between 45 and 90 minutes.
- $\sqrt{}$ Paper and pens, plus some of the activities require printouts from the Playbook.
- ✓ No particular skills are needed to participate but the workshop facilitator should feel confident with discussing sensitive issues like racial profiling.

- ✓ Participants will gain critical reflexivity and understanding of data driven practices and their impact.
- ✓ Participants will also take away strategies for community resistance and protection.
- All activities are designed to leave participants feeling empowered towards technology instead of helpless.

B). Unbias Fairness Toolkit and Youth Jury resource pack

A comprehensive set of popular education resources designed to encourage critical and civic thinking in relation to algorithmic bias.

Tool type: Workshop resource Creator: Horizon Digital Economy Research Institute, Nottingham University (2018) Toolkit URL: https://unbias.wp.horizon.ac.uk/fairnesstoolkit/ Youth Jury URL: https://uyj.wp.horizon.ac.uk/overview/



How it works

The **Fairness Toolkit** comprises of five educational materials all of which can be freely downloaded and printed from the website. All of these materials facilitate a group activity that aims to promote deliberation or critical thinking among the group. For example one of the five materials is a TrustScape, which invites people to visualise their feelings towards algorithmic systems using a downloaded worksheet, and then share these online so that stakeholders from civil society, industry and policy can respond to them using the toolkit's Stakeholder Metamap. There is also a deck of Awareness Cards (see image above) with accompanying facilitator booklet.

The freely downloadable **Youth Jury resource pack** provides key materials and guidance for implementing a youth jury, such as a checklist, schedule, session outline, worksheets and other interactive prompts that can be printed for participants to use in each exercise. The jury is aimed at 13 to 17 year olds, takes about 2 hours to run and is structured around three core themes, with a ten-minute break in the middle. The three themes are: the use of algorithms, the regulation of algorithms and algorithm transparency.

Who is this tool good for?

- $\sqrt{$ **Groups** can use these tools to stimulate civic thinking in workshops, classrooms, meetings etc.
- ✓ Non-experts since these tools have been designed to make complex and abstract ideas about algorithms more accessible and tangible, while encouraging participants to think about collective approaches to address online unfairness.
- ✓ The tools are very adaptable and can be used by multiple audiences such as technology developers to reflect on ethical issues, and can also provide a communication channel for stakeholders in industry, policy and civil society.

What you'll need

- $\sqrt{}$ Printouts of all the materials.
- \checkmark Up to 15 participants for the Youth Jury and consent forms if required.
- $\sqrt{}$ Small or classroom-sized groups for the Toolkit.
- √ No prior skills are needed to participate but an interest in the topic ideas will be useful.

Literacy outcome

 ✓ Critical awareness of algorithms, bias and fairness and especially understanding of how algorithms shape our online experiences and daily lives.

C). The Algorithmic Ecology Tool: An Abolitionist Tool for Organising Against Algorithms

A framework and organising tool that can be critically applied to any algorithm, and which was used in Stop LAPD Spying Coalition's work in resisting the PredPol predictive policing system in Los Angeles' Skid Row.

Tool type: Workshop resource

Creator: Stop LAPD Spying Coalition and Free Radicals (2020) **URL:** https://freerads.org/2020/03/02/the-algorithmic-ecologyan-abolitionist-tool-for-organizing-against-algorithms/



(Use this to find download links for blank and example templates)



How it works

The Algorithmic Ecology framework is presented as a template worksheet that enables activists, organisers and communities to visually map all of the actors involved in or affected by the deployment of a particular algorithm. The framework divides an algorithm's ecology into four layers: ideological, institutional, operational and community, enabling organisers to decentre the technology and think about where and how to target resistance.

Who is this tool good for?

- ✓ Workshops and community meetings as the framework can be used by groups to think about the institutions and interests that are served by algorithms.
- $\sqrt{}$ Activists who can use this framework to organise and target resistance against key institutions or actors.

What you'll need

 $\checkmark~$ Printouts of the Ecology templates and info sheet.

- $\sqrt{}$ Critical understanding of how algorithms interact with power structures.
- ✓ Skills for understanding and communicating algorithmic resistance.

2. Interactive tools

A). Automating NYC

An interactive website created by Harvard graduates to address the lack of public education about automated decision making systems, while also educating New York City residents about the kinds of systems being deployed in their city.

Tool type: Interactive guide Creators: Aki Younge, Deepra Yusuf, Elyse Voegeli and Jon Truong (2019) URL: https://automating.nyc/

How it works

The website is divided into five sections which, as you scroll through them, present you with stories and infographics that explain how algorithms are deployed in everyday life and which highlight the real life outcomes that have impacted NYC residents.

There are many interactive stages along the way where you can hover over text to uncover further information. A "toy algorithm" exercise helps an imaginary fire department predict which buildings are at high risk for fire and demonstrates how different variables affect the outcomes of algorithmic decision-making.

Who is this tool good for?

- ✓ Though aimed at NYC residents this tool provides a great entry point for all non-experts and the real life examples make it an interesting way of learning about how algorithms work in practice and shape our everyday experiences. A helpful feature is that technical concepts are explained in one section and then reapplied to the earlier real life examples in another section.
- ✓ Teachers and educators as this is a great resource to use with students in lessons.

Hover over the avocados to find the best one.



All of these calculations you're doing in your head are an algorithm.

You've taken some **variables** (the price, how ripe it is, and is it organic or not), given those variables **weights** (buying a cheap, ripe avocado is more important than an organic avocado), to analyze a set of **data points** (the pile of avocados) and reach a decision (which avocado should you buy).

What kind of algorithms do ADSs use?

It depends. They can sometimes be a bit more complicated than the ones we use in our everyday decisions. Some ADSs involve multiple algorithms, hundreds of thousands of data points, and variables that are given different weights.

What you'll need

- $\sqrt{}$ An internet connection, a phone or laptop.
- ✓ Roughly 45 minutes to take in all of the content and exercises.

- ✓ Critical awareness of how city administrators are currently using data and algorithms to make decisions that impact people in different ways.
- ✓ Critical understanding of how and why algorithmic processes can reproduce discrimination and inequality.
- ✓ Reflexivity on which factors make a just data system by delving into the design choices that can prevent harmful outcomes.

B). Do Not Track

An interactive and personalised documentary series about privacy and the web economy.

Tool type: Interactive guide

Creator: Directed by Brett Gaylor (2015) URL: https://donottrack-doc.com/en/

How it works

Seven episodes are provided with accompanying materials (like news articles, blog posts and videos) and the series covers topics like data collection, data protection laws, online tracking and big data analytics. Viewers are often encouraged to interact with the series.²



"Shows Just How Little Online Privacy We Really Have"

Who is this tool good for?

 $\sqrt{$ **Non-experts** as this is a very engaging introduction to the political economy of data mining. This tool also works well in a classroom or group context as one person can lead the others through each interactive episode and a different volunteer can be chosen to provide their data in each one.

What you'll need

- $\sqrt{}$ An internet connection and approximately ten minutes for each episode.
- $\sqrt{}$ This works better on a laptop or tablet rather than a phone.
- $\sqrt{}$ For teaching purposes you should allow a longer for group participation and discussion.

Literacy outcome

 \checkmark This tool provides you with a critical understanding of the origins and societal implications of tracking.



² This resource was also the most popular among participants in Ina Sander's study of citizen engagement with data literacy tools. Although the series was made in 2015 it is still relevant for today's big data economy.

C). Pre-crime calculator: A predictive policing simulator

An immersive role-playing experience that shows the player how predictive policing works, and which accompanied the release of the 2017 documentary "Pre-Crime" by Matthias Heeder and Monika Hielscher.

Tool type: Simulated experienceCreators: Michaela Pnacekova (author)Kloos & Co Medien (production) (2017)URL:https://kloosundco.de/en/pre-crime-
calculator-2/



How it works

Visitors can play this simulation via their browser or an app and the user journey begins with a "Prologue" in which an algorithm named "Agatha" asks the player questions to score them based on inferences from their interrogation by Agatha and real personal data that they provide*. These data are used to calculate the player's "danger-potential" based on real predictive policing algorithms. The second part of the simulation is the "gamified experience" in which the player plays the role of data scientist trying to perfect the algorithm in order to reduce crime in their real location.

Who is this tool good for?

- ✓ Teachers, since this tool works well in a classroom setting because it's interactive and the experience of being scored by "Agatha" is very engaging.
- ✓ Facilitating group discussions among friends, students, colleagues and workshop participants about predictive policing as well as the ethical, political and social justice implications of algorithmic decisionmaking systems.
- ✓ Public sector workers who work with data scoring systems.



What you'll need

 $\sqrt{}$ The simulation works on a laptop, tablet or mobile but is not available for Android.

- $\sqrt{}$ Critical understanding of how the inferences of scoring systems can lead to biased outcomes and entrench existing prejudices.
- $\sqrt{}$ Awareness of the complex moral dilemmas that predictive policing highlights.
- $\sqrt{}$ Critical reflexivity on the ways in which scoring systems are used to make decisions and predict human behaviour.

3. Tools for investigating public sector data systems

A). Data Scores investigation tool

As part of the Data Justice Lab's 'Data Scores as Governance' project this tool was created to map and investigate the uses of data analytics and algorithms in public services in the UK.

Tool type: Investigation tool Creator: Data Justice Lab (2018) URL: https://data-scores.org/



Investigation Tool

How it works

Four different search functions allow visitors to explore the site's database of more than six thousand documents relating to UK public sector data systems. The Insights function enables the visitor to explore data systems by department, location, organisation and software type in a visually appealing way, while the entire database can be searched by key word or phrase under the Documents Index. The Case Studies section offers further details on six data systems that were researched by the Lab, and the Overviews section provides visitors with a visual map of known predictive analytics systems in public services across the UK.

Who is this tool good for?

- ✓ Journalists and academics will find this tool helpful for understanding more about public sector uses of data analytics, especially to further research and investigation.
- $\sqrt{}$ Civil society organisations working on similar issues in policy and advocacy.
- ✓ Anyone interested in finding out about data systems being used by their local authorities or nearby authorities.

What you'll need

- ✓ Familiarity with public sector uses of data analytics and algorithms is not a prerequisite but can help visitors get more out of the tool.
- \checkmark As this is a repository basic search skills will be useful.

Literacy outcomes

- \checkmark Knowledge of where in the UK public services are using data systems and how they differ.
- ✓ An evidence base for furthering a research project or journalistic investigation.

HOW TO USE THIS TOOL

There are 3 main sections for exploring the data.



Data Insights

Exploratory overview

The data presented here is partial to the category selected, it gives a visual hint so it is easy to navigate.



Document Index

Specific word or phrase

Here you can search within the whole database. You can find search terms or phrases in context categories.



Case studies

Research

Here you can read about some examples of uses of data analytics in public services based on in-depth research.

B). Algorithm Tips

The Data Scores tool was modelled on this similar online tool which enables anyone to investigate American federal government uses of automated systems.

Tool type: Investigation tool Creator: Nick Diakopoulos, Northwestern University (2017) URL: http://algorithmtips.org/

How it works

The website is primarily a database of government algorithms which is easily searchable by any word that's in a metadata field, for example "child welfare" or "2019". Information for each algorithm is displayed in a simple format and has a link to the government agency that is using it.

Under the resources tab there is an extensive list of links to journalistic investigations of algorithms, methods for auditing and critiquing algorithms and tips for how to

Search the Database Below:

30-day All-Cause Hospital Readmission measure				
Description: "Risk-standardized readmission rate for people age 65 or older who were				
hospitalized at a short-stay acute-care hospital""				
Why it is important: Errors in calculation might fail to reducing avoidable				
readmissions				
Topic: Health				
Jurisdiction: United States				
Government Level: Federal				
Agency: Centers for Medicare & Medicaid Services (CMS)				
Proprietary: No				
Creator/Vendor: The Center for Outcomes Research & Evaluation (CORE)				
Date: 2015				
Adoption Stage: Active use				
Computational: Yes				
Link: https://effectivehealthcare.ahrq.gov/get-involved/nominated-topics/what-value-				
predictive-analytics-particularly-population-health				

Advanced Concepts & Performance Assessments MD71 program

Description: Algorithms that model ballistic missile simulation to analyze and improve ballistic defense systems

submit a Freedom Of Information request for algorithms. There is also a blog that discusses implications of some of the algorithms.

Who is this tool good for?

 $\sqrt{}$ Journalists and researchers who want to find out more about current government uses of algorithms. The site was created to be a starting-point resource for algorithmic accountability projects in particular.

What you'll need

 ✓ This website is easy to use so you won't need any specific skills.

Literacy outcomes

- ✓ Users gain leads for journalistic or academic investigations.
- ✓ Journalistic skills for investigating and critiquing algorithms (see resources tab).

Algorithm Tips – Resources and leads for investigating algorithms in society Home Resources Blog About

Resources

Investigating opaque algorithms can be a challenge. This page has some references to examples of journalism that investigate, audit, or critique algorithms, some methodologically helpful resources, and some guidance on how you might use Freedom of Information (FOI) requests in the U.S. to find out more information.

5. Algorithmic accountability projects

A). Algorithms Exposed (ALEX)

A side project from the University of Amsterdam's DATACTIVE project that is focused on developing methods for auditing proprietary algorithms, particularly aiming to uncover the personalisation algorithms at work on Amazon, YouTube and Facebook while also encouraging data activism.

Tool type: Algorithmic accountability project Creators: Claudio Agosti (lead developer); DATACTIVE, University of Amsterdam (2019) URL: https://algorithms.exposed/

How it works

Resources for the three platform audits are not immediately obvious on the project website but they can be found under the Software section of the Output tab. Here there are links to the software tools that anyone can download, customise and use to examine tracking and personalisation on Amazon, Facebook and Youtube, including browser extensions for each platform. There are step-by-step guides for installing the extensions. Using cryptography, these extensions send user data to ALEX's server and are fully GDPR compliant, but users have full control over which data they choose to volunteer to the project. Receiving this data enables the project team to compare personalised social media experiences from different internet users.

What you'll need

- \checkmark To participate you'll need a YouTube, Amazon or Facebook account.
- ✓ To be able to play around with the tools and compare results, data analysis and coding skills will be useful (Python and R).







YouTube has the power to influence a public debate -Let's expose it together!



Who is this tool good for?

- ✓ Experts such as data scientists, analysts and researchers working on the topic of algorithmic accountability and personalisation algorithms (especially the YouTube and Amazon tools which are research-oriented).
- $\sqrt{}$ Journalists and policy makers who can make use of the project's auditing methods.
- ✓ Curious citizens who can use the resources to gain more control over their Amazon, YouTube and Facebook experiences.
- \checkmark Keep in mind there's a lot of information and links on this site so it can be a bit confusing to navigate.

- \checkmark Critical reflexivity on your own information diet and social media use.
- $\sqrt{}$ Critical evaluation of personalisation algorithms.
- \checkmark Learn how to use your data to participate in civic projects.

B). Instagram algorithm data donation plug-in

Developed by Algorithm Watch, this is a similar participatory tool to Algorithms Exposed that also uses data "donation" as a method to research Instagram's algorithm, which has been under-researched compared to Facebook and YouTube.

Tool type: Algorithmic accountability project Creator: Algorithm Watch (2020) URL: https://algorithmwatch.org/en/instagramalgorithm/



How does it work?

By visiting the project page on Algorithm Watch's website, users can participate by downloading the plug-in for Firefox. Users will then be asked to follow three specific Instagram accounts and continue to use the platform as normal. The plug-in collects information about the pictures and videos that appear in users' newsfeeds plus information about some of the accounts that they follow. All the information is anonymised in a way that makes it impossible for Algorithm Watch to re-identify data donors. What Algorithm Watch wants to find out is whether Instagram favours some types of content over others.

Who is this tool good for?

- $\sqrt{1}$ Instagram users who want to contribute to algorithmic accountability.
- \checkmark Academics, researches or data scientists interested in the topic of personalisation algorithms, as you can create an account just for the experiment and don't need to be active for it to work.
- $\sqrt{}$ It's not yet clear how AW will communicate the results they receive from people donating their data so the literacy potential is not entirely clear.

What you'll need

- $\sqrt{}$ To participate you need Firefox browser and an Instagram account, but no prior skills or knowledge.
- $\sqrt{}$ Literacy outcome: Encourages participation and may prompt critical evaluation.



Published: March 3, 2020 Category: **data donation**

Instagram is the third largest social network in Europe, but compared to YouTube and Facebook, there has so far been little effort to research its algorithm.

AlgorithmWatch wants to change that and calls on Firefox users for their help in donating data. If you want to contribute, here's what you can do:

6. Quick privacy guides

A). I have something to hide

A multimedia website and toolkit produced by freelance graphic designers, programmers and activists in Lisbon that educates visitors about online tracking and the value of privacy.

Tool type: Quick privacy guide Creators: Peter Bouda, Pierre Ozoux, "Julie" and "Daniel" (2015) URL: https://ihavesomethingtohi.de/

How it works

This interactive site gives a brief introduction into several topics like mass surveillance and digital footprints, and provides links to interesting external resources. The



site also offers an easy to follow 11-step "Data Protection Toolkit" which is a good literacy resource. For every step an estimated time, the required skills, the level of "spy reduction" and an "inconvenience rating" is given. There's also a helpful list of links to similar available tools.

Who is this tool good for?

 $\sqrt{$ **Non-experts** who want to cover the basics. This site is good for providing individual data privacy and security and actionable tips, especially for those with no prior knowledge. There is less in this resource to encourage deeper critical understanding.

What you'll need

 $\sqrt{}$ A device to add privacy protections to.

Literacy outcomes

- $\sqrt{}$ Awareness of tracking.
- ✓ Actionable knowledge for protecting your data online.

Data protection toolkit

TL;DR use tails :)

Estimated time Skills required Spy reduction Inconvenience rating between 1 and 5, 1 is easy from 0 to 5, 0 is low to perform from 1 to 5, 1 is low 0 0 \bigcirc **Install Firefox** Ø) 0 1 2 https://www.mozilla.org/firefox/ Why? Free software to browse the Internet.

B). AdTech introduction and How To Minimise Targeted Ads on Social Media

A set of technical guides that demonstrate with screenshots how to improve privacy and minimise targeted ads on nine different platforms, which can be complemented by a critical introduction to AdTech.

4. Click on Ad Settings (\underline{Link} when logged in)

Tool type: Quick privacy guide **Creator:** Privacy International (2019)

URL for the technical guides: https://privacyinternational.or g/taxonomy/term/601 URL for AdTech resource: https://privacyinternational.or g/learn/adtech

How it works

For the technical guides, a brief paragraph introduces PI's work on AdTech, explains why the guides have been created and how they will help. Below the introductory text there are links to the nine guides, which use

Q Home Find Fr	riends 🚉 🗭 🚆 🕜
Your ad preferences earn what influences the ads you see and take control of our ads experience. earn about Facebook ads ⁽²⁾	
Your interests	
Advertisers	
1 Your information	
O Ad settings	Close ^
Ads based on data from partners To show you better ads, we use data that advertisers and other partners provide us with about your activity off Facebook Company Products.	Not allowed
Ads based on your activity on Facebook Company Products that you see elsewhere When we show you ads off Facebook Company Products, such as on websites, apps and devices that use	Not allowed

screenshots to explain how to switch on/off various advertising and privacy settings.

PI's useful AdTech learning resource, which provides a critical introduction and overview of the topic, can complement the technical guides. This resource is a web page split into different explanatory sections that are easy to follow, with links to further Explainer resources below.

Who is this tool good for?

✓ Non-experts and active social media users as these guides are quick and easy to follow, making them great for everyone. Following these tips will give you stronger individual data privacy as well as a little more control in your use of these platforms. Keep in mind that they are best used as a starting point and won't prevent companies from tracking you. The AdTech introduction is also great for giving non-experts a critical overview.



What you'll need

 $\sqrt{}$ The device(s) that you want to add these protections to.

- $\sqrt{}$ Reading the AdTech resource provides a critical understanding of the AdTech landscape plus basic knowledge of problematic industry practices like Real Time Bidding.
- $\sqrt{}$ Implementing the guides can offer stronger individual privacy and control.

In-depth guides to the GDPR and data economy

A). Your Data Your Rights

A practical guide to the GDPR that aims to empower EU citizens to understand and ultimately use their data protection rights.

Tool type: In-depth guide to data protection Creator: Digitale Gesellschaft e.V. (2018) URL: https://yourdata-yourrights.eu/

How it works

This easy to navigate site explains fundamental GDPR rights and principles in four different ways: a game that invites you to defend your data against unfair attacks; accessible articles that provide overviews of each right; short animated videos that explore data protection in every day life; and different sample letters that can be used as a template to exercise each GDPR right. There is also a dictionary which goes into more detail on specific aspects of some of the rights and rules.

To Recipient's address Right to express my view in automated individual decision-making, including profiling pursuant to Article 22(3) GDPR Your customer and/or billing number

To whom it may concern:

Pursuant to Article 22(3) of the General Data Protection Regulation (GDPR) I hereby express my view regarding a decision based on automated processing:

Case of automated decision-making

- I demand to obtain human intervention on the part of you as the controller pursuant to Article 22(3) GDPR.
 - I contest the automated decision pursuant to Article 22(3) GDPR.



RFAD

Discover how to defend yourself and your data against unfair attacks in this game!

Go to browser game

Go to articles

Easy-to-understand

introductions give you an

overview. If you want to learn

more, the dictionary has details.



Go to videos

 \square



Have a look at the short animated movies to learn about data protection in everyday life. Start right away and use your rights? Here's where you find links and sample letters to exercise your rights.

Go to sample letters

Who is this tool good for?

- ✓ Non-experts who want to grasp how the GDPR impacts their rights and what actions they can take.
- ✓ Teachers and trainers who want to cover data protection or data rights topics.
- Civil society groups who can use the advice and letter templates to help communities they champion or represent.

What you'll need

- ✓ If you want to use any of the template letters you'll need to print them out.
- ✓ No prior data protection knowledge is needed.

- ✓ Understanding of data rights.
- ✓ Practical knowledge of how to use rights and in which contexts.

B). Me and My Data Shadow

A multimedia website that helps visitors to explore their data shadows and offers a variety of resources to educate and equip visitors with the knowledge and skills to have more control over their data.

Tool type: In-depth guide to the data economy Creator: Tactical Tech (2012; last updated 2018) URL: https://myshadow.org/

How it works

This multimedia website has five different literacy sections for visitors to explore, which explain how citizens are being tracked and educates visitors about the data industry through a range of activities, short videos, blogs and resource hubs. The Tracking section provides a comprehensive introduction to the topic, including a "Trace My Shadow" function that is an especially great way to get a glimpse into the digital traces you're leaving - how many, what kinds, and from



ALTERNATIVE TOOLS AND PLATFORMS

what devices, plus what you can do to take control of these traces. The Control Your Data section offers tips and tools which visitors can then apply to their own devices and browsing habits. The App Centre recommends apps for better privacy and security. The Train section provides fully planned training sessions on a variety of related topics for practitioners. However, the site is no longer being updated.

Who is this tool good for?

- $\sqrt{$ **Non-experts** who can take advantage of this thorough introduction into the world of corporate data exploitation. Even though there is a lot to take in the site is very accessible.
- $\sqrt{}$ **Teachers and trainers** who can make use of the selection of educational materials and fully planned lessons.
- $\sqrt{}$ **Anyone** who wants practical tips that are straightforward to act on.
- $\sqrt{}$ This tools works well in the classroom and as an individual resource.

1	Workshops and Activities 31				
i	Session outlines for trainers. WORKSHOP outlines can be used to run longer, structured sessions; these often pull in multiple activities. Stand-alone ACTIVITIES can be used to illustrate a single issue. Accompanying REFERENCE DOCUMENTS can be downloaded here				
	Boost Your Browser @ 1 hour, 50 n	inutes	• Select this session		
	How does tracking in the browser work? Fin information your browser gives away.	d out, and then take st	view the full session		
	Browser Basics 2 hours		• Select this session		

What you'll need

- ✓ This tool works better on a laptop or tablet rather than a phone.
- ✓ There's a lot of material on this site so you may want to set aside plenty of time or go through it in several sessions.

- ✓ Critical understanding of online tracking and the wider data economy.
- $\sqrt{}$ Practical knowledge of how to control your data.