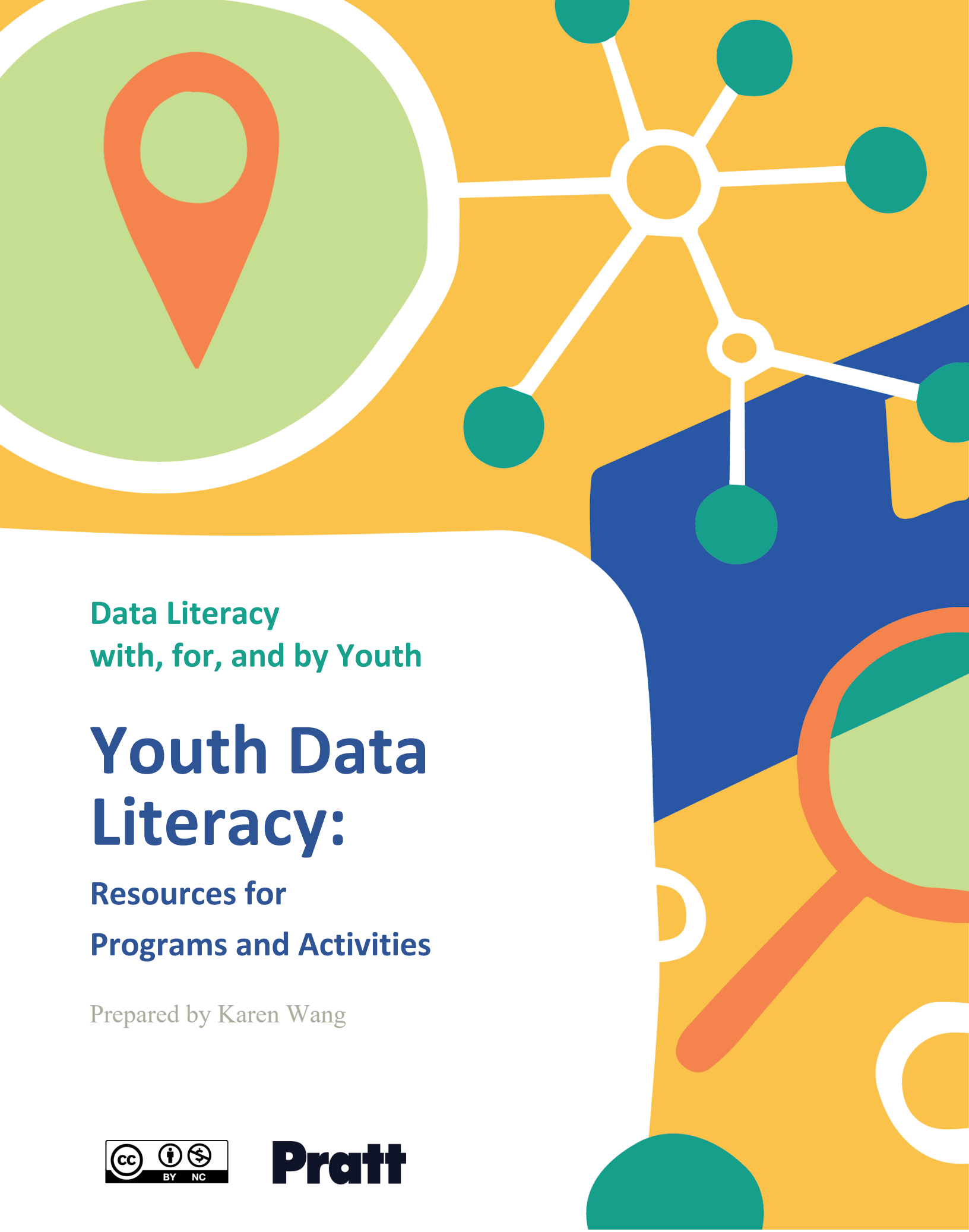


Data Literacy
with, for, and by Youth

Youth Data Literacy:

Resources for Programs and Activities

Prepared by Karen Wang

Pratt

Data Literacy

Data literacy is a complex array of skills, knowledge, and humanistic reasoning to be applied throughout the data life cycle. This includes a set of dispositions that facilitate the ability to critique data practices, to contextualize data to broader contexts such as platforms, cyberinfrastructure, and society, and to find meaning in data beyond statistical and mathematical arguments. A person who is data literate tries to explain why specific actions are being taken with data, not just what and how.

About Data

Data is any kind of information about you, your community, and the world. Data comes in many forms, from personal digital data to civic data created by your city, state, and country. Large computational systems gather “Big Data,” which are extremely large data sets that may be analyzed computationally to reveal patterns in human behavior.

About This Document

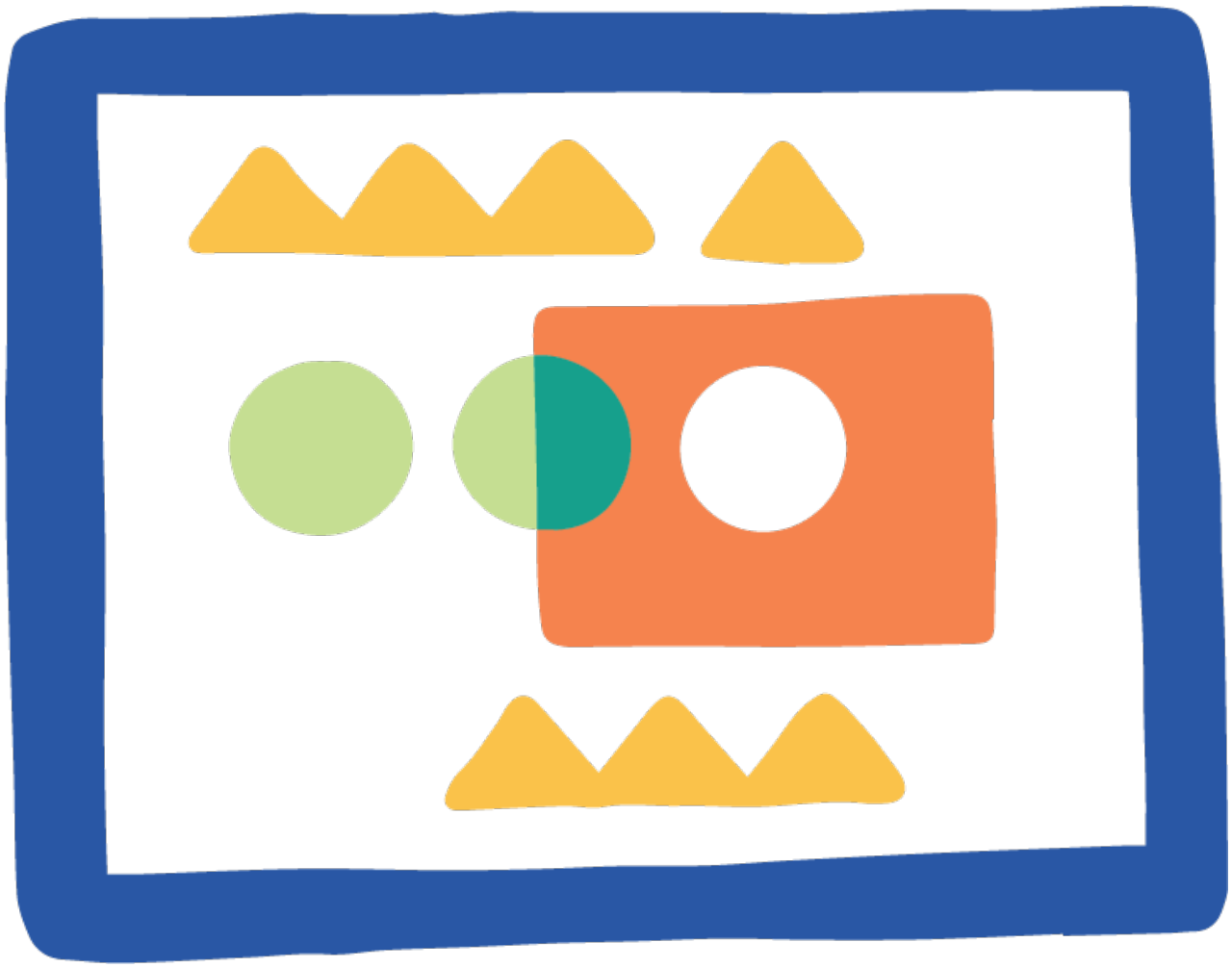
This document was prepared by Karen Wang, for Pratt Institute's “Data Literacy with, for, and by Youth” project in 2021, updated in 2026 by Thalia Richter. With the active participation of young people, Pratt’s Data Literacy project aims to design, build, and test prototypes for youth-oriented data literacy activities, for use in after-school STEM programs at the public library.

The resources in this guide provide background information on key data literacy concepts and some ideas for fun and engaging data literacy programs. This resource guide is meant to be used as an idea-generator—a source of inspiration for teens, librarians, and others in the after-school arena—to support the design of data literacy programs customized to serve youth in their communities.

This project is supported by a grant from the National Science Foundation (Award #2005608). For more information about the project, Data Literacy with, for, and by Youth, please visit the project website, https://sites.google.com/pratt.edu/data-activism-for-youth/home

Table of Contents

Last updated: 03/11/2026
Prepared by: Data Literacy with, for, and by Youth



Algorithms & Artificial Intelligence

Algorithms & Artificial Intelligence

What are algorithms?

Algorithms are software programs that find patterns in data in order to make predictions. These predictions may be used to personalize online experience or shape behavior.

What is Artificial Intelligence (AI)?

Computer systems that use data and algorithms to do things that normally require human intelligence. Like humans, these systems "learn" over time by continually taking in more data and improving their algorithms.

Introductory resources

VIDEO: What Is an Algorithm?
https://youtu.be/46AcviSU9Rg
Companies use your data to serve you personalized search results, video recommendations, and targeted ads—but how do they analyze the data and figure out what you'll like? This video explains how these decisions are made by algorithms. Source: Kids Code Jeunesse and CCUNESCO: The Algorithm Literacy Project

ONLINE ACTIVITY: Build Your Own Algorithm
https://mostlikelymachine.artefactgroup.com
Design an algorithm that predicts who will win three awards: most likely to go to a top university, most likely to go viral, and biggest troublemaker. You choose the characteristics that the algorithm will look for to identify which historical figure should win each award. Source: Artefact

VIDEO: What is Algorithmic Bias and How Can We Address It?
https://www.ted.com/talks/joy_buolamwini_how_i_m_fighting_bias_in_algorithms
In this video, the speaker explains algorithmic bias, starting with the example of facial recognition software that did not detect her face because she is Black. The video also includes solutions for how we might curb this kind of bias through inclusive coding. Source: TEDxBeaconStreet

REFLECTION ACTIVITIES: AI, Machine Learning, and Natural Language Processing
https://yr.media/diy/outsmarting-artificial-intelligence-a-primer
This resource starts with a basic introduction to AI, then gets into the concepts of machine learning (the capability of a machine to learn how to perform certain tasks on its own) and natural language processing (voice recognition such as Google Home, Siri, and Alexa). The activities ask you to think about why Instagram shows you certain images on your "Explore" tab, interact with a chatbot developed by MIT, and write a poem using auto-complete. Source: YR Media

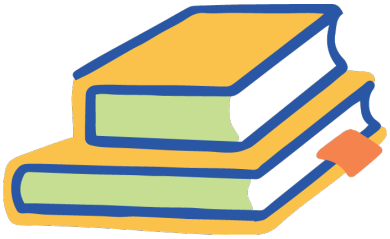
Real-world examples

Use in School Settings:

Colleges can now figure out which students will be successful — even before classes start (Business Insider)
https://www.businessinsider.com/how-colleges-use-big-data-2016-6

Colleges are now using AI tools to screen and analyze college admission essays.
https://apnews.com/article/ai-chatgpt-college-admissions-essays-87802788683ca4831bf1390078147a6f

Risk Assessment of AI Teacher Assistants, which are generative AI tools designed to help with lesson plans, grading, and other administrative tasks.
https://www.commonsensemedia.org/ai-ratings/ai-teacher-assistants?gate=commsdistributionlink



Public and Private Use:

Facial recognition used to find U.S. Capitol rioters, raising ethical concerns (Los Angeles Times)
https://lat.ms/3iyMy5Y

Activist use of facial recognition to identify police officers (NYTimes)
https://www.nytimes.com/2020/10/21/technology/facial-recognition-police.html

Examples of surveillance, facial recognition technology, and algorithms to determine "social credit scores" in China (VICE News)
https://youtu.be/CLo3e1Pak-Y

Immigration and Customs Enforcement (ICE) is acquiring new surveillance tools, including facial recognition apps and software providing access to location-based data.
https://www.npr.org/2025/11/08/nx-s1-5585691/ice-facial-recognition-immigration-tracking-spyware

Examples of facial recognition used by law enforcement around the world (Last Week Tonight with John Oliver)
Note: some explicit language
https://youtu.be/jZjmlJPJgug

Algorithmic Bias and Flaws:

A study of 189 facial recognition systems had a harder time identifying BIPOC and women (CNET)
https://www.cnet.com/news/many-facial-recognition-tools-convey-racial-bias-study-finds

Discriminatory results based on Google searches for "racially associated" names (Harvard Data Privacy Lab)
https://dataprivacylab.org/projects/onlineads

Detroit Police wrongful arrest based on flawed facial recognition technology (ACLU)
https://youtu.be/Tfgi9A9PfLU

Examples and inspiration for data literacy activities

VIDEO: Data Brokering and Profiling Scenario
https://youtu.be/33ClVjvYyEk
In the video "Scary Pizza," we see the screen of a pizza restaurant operator and hear her conversation with a customer who calls to order a delivery. As the narrative unfolds, we see that the pizza restaurant has collected a lot of personal data about the customer and is using it to determine his charges—for example: a health surcharge if he orders the meat lovers pizza because he has high blood pressure and high cholesterol. Source: ACLU

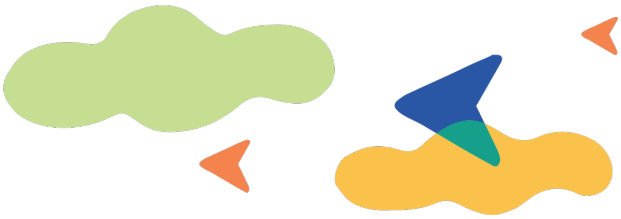
POSTER: The Five Big Ideas in Artificial Intelligence
https://ai4k12.org/resources/big-ideas-poster
This poster outlines five major concepts that are key to understanding and thinking about AI. Source: AI4K12

ACTIVITIES: Teaching Ethics of AI to Middle School Students
https://bit.ly/3gelOFg
This curriculum includes eight activities designed to teach middle schoolers about AI and get them to reflect on the ethics involved. Example activities: AI Bingo, writing an algorithm to make the "best" peanut butter and jelly sandwich, working with biased datasets, and a YouTube Scavenger Hunt. Source: MIT Media Lab

DESIGN PROJECT: Smart Lock Powered by Your Data
http://www.robbycollins.com/loq-2015
Artist Robby Collins held workshops where participants helped design a smart lock powered by your unique interactions across the Internet. You would just tap your phone on your door and—assuming a match—your door would open. The LOQ would also provide a solution to the housing crisis by monitoring your income and spending patterns and then determining whether it thinks you can afford to live in your current home. The LOQ might automatically sublet your rooms to help you earn some money or you might even move you to more affordable accommodations if necessary. Source: Artist website

ART/RESEARCH PROJECT: Drag Makeup and Facial Recognition Algorithms
https://www.harriskornstein.com/portfolio/screen-queen-face-fail
After noticing that Facebook's facial recognition would incorrectly tag drag queens as each other, artist/researcher Harris Kornstein created the "Screen Queen Face Fail" project to explore the use of drag makeup as a tactic to confuse facial recognition algorithms. Source: Artist website

DESIGN PROJECT: Predicting White Collar Crime
https://whitecollar.thenewinquiry.com
White Collar Crime Risk Zones uses machine learning to predict where financial crimes are mostly likely to occur, drawing attention to the way that law enforcement uses predictive policing systems that target traditionally marginalized communities. Source: The New Inquiry Magazine



Additional resources

GUIDE: AI in the Digital World: A Guide for Teens
https://static1.squarespace.com/static/65674236d8fc0b14f13e8c51/t/6913b126d2521700c09cf4e2/1762898214112/%23GFM+Guide+for+Teens+-+AI+in+the+Digital+World+%28Nov2025%29.pdf
This is a practical and basic guide to common types of AI tools written by a youth-led peer mentoring and education program, GoodforMEdia. The guide aims to help teens understand how to engage with AI responsibly, while protecting their mental health. Source: GoodforMEdia

ARTICLE: Jay-Z Beefs with A.I. … Are Other Artists Next?
https://yr.media/tech/on-to-the-next-one-jay-z-beefs-with-a-i-are-other-artists-next
This article is about deep fakes created through computer speech synthesis programs using AI. In particular, a YouTube artist named Vocal Synthesis created a library of popular voices mismatched with unexpected famous texts, such as George Bush reading "In Da Club" by 50 Cent, Barack Obama reading "Juicy" by Notorious B.I.G, and Jay-Z reading *Hamlet* and Billy Joel's "We Didn't Start the Fire." This article explores the technical, legal, and ethical issues involved. Source: YR Media

ARTICLE: Algorithmic Nudges Don't Have to Be Unethical
https://hbr.org/2021/04/algorithmic-nudges-dont-have-to-be-unethical
This article recognizes that many companies use algorithms to "nudge" workers into behavior that benefits the companies, and argues that companies should instead nudge workers towards "win-win" situations for everyone involved—as long as they are transparent about how they do it. Source: Harvard Business Review

ARTICLE: The Promise and Pitfalls of Artificial Intelligence and Personalized Learning
https://bit.ly/3zcitPK
In this interview, a researcher explains how AI is being used to help teachers deliver personalized learning—and raises concerns about bias if students are "classified" in ways that may not be accurate or helpful. Source: Education Week

ARTICLE: Unintended Consequences of AI in K-12 Education
https://bit.ly/3x5pJuT
This article highlights findings from a recent report about how AI is used in schools. The report raises concerns that AI tools have not been built with student privacy in mind and that algorithmic bias could lead to inequitable outcomes. Source: Education Week

RESOURCE COLLECTION: Algorithmic Justice
https://www.ajl.org
The Algorithmic Justice organization combines art and research to draw attention to the social implications and potential pitfalls of AI. Their website includes many articles, videos, and additional resources on the issue. Source: Algorithmic Justice League

Algorithms, Data, and Personalization

Algorithms, Data, and Personalization

What are algorithms?

Algorithms are software programs that find patterns in data in order to make predictions. These predictions may be used to personalize online experience or shape behavior.

Introductory resources

VIDEO: What Is an Algorithm?
https://youtu.be/46AcviSU9Rg
Companies use your data to serve you personalized search results, video recommendations, and targeted ads—but how do they analyze the data and figure out what you'll like? This video explains how these decisions are made by algorithms. Source: Kids Code Jeunesse and CCUNESCO: The Algorithm Literacy Project

VIDEO: The Truth About Algorithms
https://youtu.be/heQzqX35c9A
Some people say that algorithms are objective, but this video points out that algorithms are designed by humans. Therefore, "algorithms make things work for the builders of the algorithms." Source: Royal Society for Arts, Manufactures and Commerce (RSA)

Real-world examples

Colleges can now figure out which students will be successful — even before classes start (Business Insider)
https://www.businessinsider.com/how-colleges-use-big-data-2016-6

An algorithm speed ups diagnosis of rare genetic diseases by comparing patient symptoms to a knowledge base of medical literature (Stanford)
https://stan.md/350kKj3

How TikTok's recommendation engine matches viewers to videos (Bloomberg Opinion)
https://www.bloomberg.com/opinion/articles/2020-09-21/tiktok-s-algorithm-can-t-be-trusted

Target uses purchase data to infer when its customers are pregnant (NYTimes)
https://nyti.ms/3z7lHUN

Netflix sorts viewers into "taste groups" that influence the recommendations they see (Wired)
https://bit.ly/3w4HSsP

Examples and inspiration for data literacy activities

VIDEO: How Music Streaming Services Use Algorithms to Recommend Songs

This video illustrates how two different music streaming services (Pandora and Spotify) take different approaches to the algorithms they use for recommending songs to listeners. Source: NBC News
https://nbcnews.to/3v5csks

Additional resources

FAQ: Your Rights Related to Profiling and Automated Decision-Making
https://bit.ly/3v5iv8A
Europe's data protection law establishes that people have the right not to be subject to a decision based solely on automated means (in other words, decisions made based on algorithms or other technological means without any human involvement). Source: European Commission

VIDEO: Introduction to Algorithmic Bias
https://youtu.be/SA-Lu_mv5RQ
This video provides a brief overview of algorithmic bias and its causes and ends with a few ideas for how to reduce it. Source: University of Michigan School of Information

VIDEO: What is Algorithmic Bias and How Can We Address It?
https://www.ted.com/talks/joy_buolamwini_how_i_m_fighting_bias_in_algorithms
In this video, the speaker explains algorithmic bias, starting with the example of facial recognition software that did not detect her face because she is Black. The video also includes solutions for how we might curb this kind of bias through inclusive coding. Source: TEDxBeaconStreet

Data Dossier

Data Dossier

What is a data dossier?

Data is any kind of information about you, your community, and the world. Your data dossier is all the collected data about you. This data can be bought and sold and used to predict or even manipulate someone's behavior.

Introductory resources

VIDEOS: Your Online Identity Across the Internet
https://youtu.be/24Ne9MZebg0
https://youtu.be/bqWuioPHhz0
These two videos explain how connections can be made between your online activity across the Internet even when you think you are doing something anonymously or only sharing a limited amount of data. Sources: Teaching Privacy and The Center for Investigative Reporting

BLOG POST: Cross-Site Tracking, Explained
https://blog.mozilla.org/en/products/firefox/cross-site-tracking-lets-unpack-that
Learn how and why companies collect your browsing data across multiple websites. Source: Mozilla

VIDEO: Brokers Buying and Combining Your Data
https://youtu.be/AU66C6HePfg
The speaker in this video outlines how brokers purchase and combine your personal data based on your online and offline behavior in order to create a rich and accurate picture of you. Source: TEDxExeter

ONLINE TOOL: Trace My Shadow
https://myshadow.org/trace-my-shadow
This tool allows you to get a glimpse into the digital traces you're leaving through your everyday tech use. Select the device and services that you use, and see how many traces you leave. Source: Tactical Technology Collective: Me and My Shadow

Real-world examples

Facebook shared user data with 150+ other companies, including Amazon, Microsoft, and Spotify (NYTimes)
https://www.nytimes.com/2018/12/18/technology/facebook-privacy.html

Data brokers can trace anonymized medical data to specific individuals (Scientific American)
www.scientificamerican.com/article/how-data-brokers-make-money-off-your-medical-records

Weather Channel settled lawsuit, and continues to sell user location data (The Verge)

https://bit.ly/2Ry5GpK

Some web browser extensions are collecting and selling your browsing history and personal data (Washington Post)
https://www.washingtonpost.com/technology/2019/07/18/i-found-your-data-its-sale

Your data dossier includes information of public record that enables doxxing (harassment by spreading someone's personal information) (Business Insider)
https://www.businessinsider.com/what-is-doxxing

Examples & inspiration for your own design projects

GUIDE: How to Opt Out of Data Broker Sites
https://bit.ly/2TeGKny
This guide provides websites and opt-out links for various data broker sites. Source: VICE

VIDEO: Why It Feels Like Facebook Is Listening Through Your Mic
https://on.wsj.com/3zdvDvF
Facebook may be keeping tabs on you, but it's not through your phone's microphone! Although it certainly seems like Facebook has tapped your phone's mic to listen to your conversations and target ads, the truth is, it doesn't have to. This video explains how Facebook really does it. Source: Wall Street Journal

VIDEO: What's a Digital Shadow?
https://myshadow.org
Through your computer, cell phone, and other digital devices, you leave behind many digital traces every day. When your digital traces are put together to create stories or profiles of you, these become your digital shadows. And once they're out there and available to others, they are difficult for you to control… Source: Tactical Technology Collective: Me and My Shadow

INFOGRAPHICS: Corporate Data Tracking
https://crackedlabs.org/en/corporate-surveillance/infographics
These infographics visually illustrate the way that companies monitor people and combine their data from multiple sources in order to create a fuller picture of each individual. Source: Cracked Labs

Additional resources

ARTICLE: How 250 iPhone Apps Rate in Terms of Tracking and Sharing Your Data
http://nytimes.com/wirecutter/blog/how-iphone-apps-track-you
This article provides information on how various popular iPhone apps rate in terms of tracking and sharing your data with other companies. Source: NYTimes

GUIDE: Online Tracking
https://www.consumer.ftc.gov/articles/0042-online-tracking
This guide explains how cookies and other methods of online tracking enable companies to collect data about your behavior across the Internet in order to develop a fuller picture of you. Source: U.S. Federal Trade Commission

Data Privacy

Data Privacy

What is data privacy?

Data privacy refers to the level of control that you have over other people's access to data about you.

Introductory resources

Consumer data:

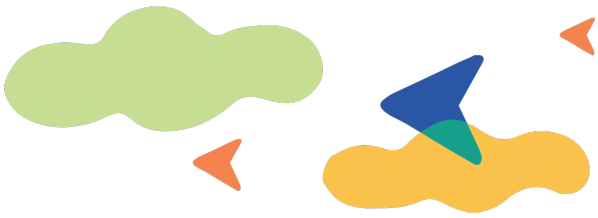
ONLINE TOOL: Trace My Shadow
https://myshadow.org/trace-my-shadow
This tool allows you to get a glimpse into the digital traces you're leaving through your everyday tech use. Select the device and services that you use, and see how many traces you leave. Source: Tactical Technology Collective: Me and My Shadow

REFLECTION ACTIVITY: Who Has My Data?
https://www.lse.ac.uk/my-privacy-uk/who-has-my-data
Sometimes apps collect information that's unexpected. It's hard to know where our data ends up or how long it stays there, even after we have deleted our original profile. This activity provides links for you to check who has your data on social media. Source: London School of Economics: My Data & Privacy online toolkit

REFLECTION ACTIVITY: Cover Your Tracks
https://coveryourtracks.eff.org
See how trackers view YOUR browser! How private is it? Source: Electronic Frontier Foundation.

REFLECTION ACTIVITY: Creep-O-Meter
https://foundation.mozilla.org/en/privacynotincluded
This product guide ranks connected toys/gadgets in terms of privacy and security. Use the guide to look up details about the products you use and see where they rank on the Creep-O-Meter! Source: Mozilla Foundation

ARTICLE: Tracking… So What? 7 Things We Know You're Going to Say
https://myshadow.org/tracking-so-what
This article debunks common arguments around data and privacy, such as: "I've got nothing to hide"; "Who cares if people know I eat cornflakes for breakfast?"; and "I'm just one in millions...how could anyone see me?'' Source: Tactical Technology Collective: Me and My Shadow



Educational data:

PODCAST: Privacy for sale? How EdTech companies profit from students' data
https://fiverights.podbean.com/e/privacy-for-sale-how-edtech-companies-profit-from-students-data/
The *Tech This Out* podcast is hosted and led by teens and discusses digital rights, with a focus on children and youth. This episode discusses how EdTech companies use and collect student data.
Source: 5rights Foundation

ARTICLE: No Enforcement of Student Privacy Pledge
https://bit.ly/3w5Xtbs
The Student Privacy Pledge is a commitment by educational technology companies to use student data responsibly and appropriately. However, this article

argues that companies violate this pledge all the time and there is no accountability. Source: The Hill

VIDEO: Personalized Learning in K-12 Schools, Explained
https://youtu.be/hd22P4RDmtg
Personalized learning relies on student data to provide a more customized learning experience for each student. This video explains what personalized learning is, outlines some of its potential benefits, and raises a few concerns. Source: Education Week

INFOGRAPHIC & VIDEO: What Is Student Data?
https://dataqualitycampaign.org/resource/what-is-student-data
These resources explore different types of student data and suggest how they might be used to help students—provided certain requirements are met (such as security). Whether or not you like the use of data for personalized learning, this resource is helpful for understanding how student data is used in schools. Source: Data Quality Campaign

Real-world examples

Consumer data:

Smart Devices
Smart TVs tracking and sharing viewer data with advertising companies (Consumer Reports)
https://medium.com/cr-digital-lab/smart-tvs-a-digital-standard-case-study-6d669c8674ef

Data that the user willingly provides to Google through Chromecast (NYTimes)
https://nyti.ms/3x6z59B

Apps
Car insurer apps that monitor your driving and location (NYTimes)
https://www.nytimes.com/2020/07/16/business/car-insurance-app-discounts.html

Email management program Unroll.me scanned people's inboxes and sold their data (The Verge)
https://www.theverge.com/2019/12/17/21027159/unroll-me-email-privacy-ftc-settlement

Superhuman app tracked email recipient location and shared with the email sender (The Verge)
https://bit.ly/2Tdioec

Smartphone apps collecting/selling your location data (NYTimes)
https://www.nytimes.com/interactive/2018/12/10/business/location-data-privacy-apps.html

Smartphone apps marketed for stalking (NYTimes)
Content warning: mentions of stalking, intimate partner violence
https://www.nytimes.com/2018/05/19/technology/phone-apps-stalking.html

Educational data:

Compromised and misused student data (PBS News Hour)
https://www.pbs.org/newshour/show/why-digital-education-could-be-a-double-edged-sword

College Board tracking/sharing student data with Facebook, Google, AdMedia, etc. (Consumer Reports)
https://medium.com/cr-digital-lab/student-tracking-and-the-college-board-512a94d60ec3

Examples & inspiration for your own design projects

Consumer data:

VIDEO: Why You Can't Win at Privacy Whac-a-Mole
https://on.wsj.com/2TcjYNa
Changing your privacy controls is like playing the carnival game Whac-a-Mole. Knock out one way for advertisers to track you, and they just find another way to do it. This video explains what's going on behind the scenes and offers suggestions for addressing at least some key privacy settings. Source: Wall Street Journal

VIDEO: Why It Feels Like Facebook Is Listening Through Your Mic
https://on.wsj.com/2T6Wpp8
Facebook may be keeping tabs on you, but it's not through your phone's microphone! Although it certainly seems like Facebook has tapped your phone's mic to listen to your conversations and target ads, the truth is, it doesn't have to. This video explains how Facebook really does it. Source: Wall Street Journal

VIDEO: What's a Digital Shadow?
https://myshadow.org
Through your computer, cell phone, and other digital devices, you leave behind many digital traces every day. When your digital traces are put together to create stories or profiles of you, these become your digital shadows. And once they're out there and available to others, they are difficult for you to control… Source: Tactical Technology Collective: Me and My Shadow

VIDEO: It's Only an Online Game, Why Read the Small Print?
https://youtu.be/z5JvpUPmrZ0
What does the internet know about you, and where does your data go? This video explains how your online data might be used and what you can do to protect your privacy. Source: London School of Economics: My Data & Privacy online toolkit

GAME: Privacy Chicken
https://www.nytimes.com/interactive/2020/01/21/opinion/privacy-chicken-game.html
You may not think about it, but you're giving out your personal data online all the time. This game forces you to stop, reflect, and make a clear choice. To win, just share your personal information! Source: New York Times: The Privacy Project.

EXPERIENTIAL POP-UPS: Consulate of Google (https://roos.gr/The-Consulate-of-Google)
Social ID Bureau (http://tobi-x.com/social-id-bureau.html)
Artist Roos Groothuizen created a fake consulate office where visitors received "passports" recording all their personal data recorded in their Google ad profile. Another artist, Tobias Leingruber, created a fake government bureau office where visitors received personalized "Facebook Social ID cards," pointing out that digital identity is not necessarily in the hands of governments but private corporations. Source: Artist websites

ESCAPE ROOM: I Want to Delete It All, But Not Now
https://roos.gr/I-want-to-delete-it-all-but-not-now
Artist Roos Groothuizen created a conceptual escape room highlighting our digital dilemmas about online addiction, privacy, and responsibility. By solving physical and digital puzzles, players become more aware of their own choices and are challenged to take action to regain control of their online data. Source: Artist website

DATA VISUALIZATION PROJECT: Pathways
https://www.nationalgeographic.com/pathways
For this project, a researcher created visualizations of a month's worth of the mobile data from four groups of Londoners: roommates, a couple, a family, and co-workers. The researcher also analyzed the connections between the data from individuals within each group with interesting results. For example, the researcher noticed that within a group of three co-workers, two of them spent more time together than with the third; subsequently, those two ended up moving in together! Source: National Geographic

Educational data:

VIDEO: Using Data for Personalized Learning
https://youtu.be/6oLNLCO0vfI
This video lays out a vision for how student data can power personalized, or adaptive, learning. Starting at 0:43, the video provides examples drawn from existing educational technology products. Whether or not you like the use of data for personalized learning, this video could serve as inspiration for how to explain the way student data is used in schools. Source: Educause

Additional resources

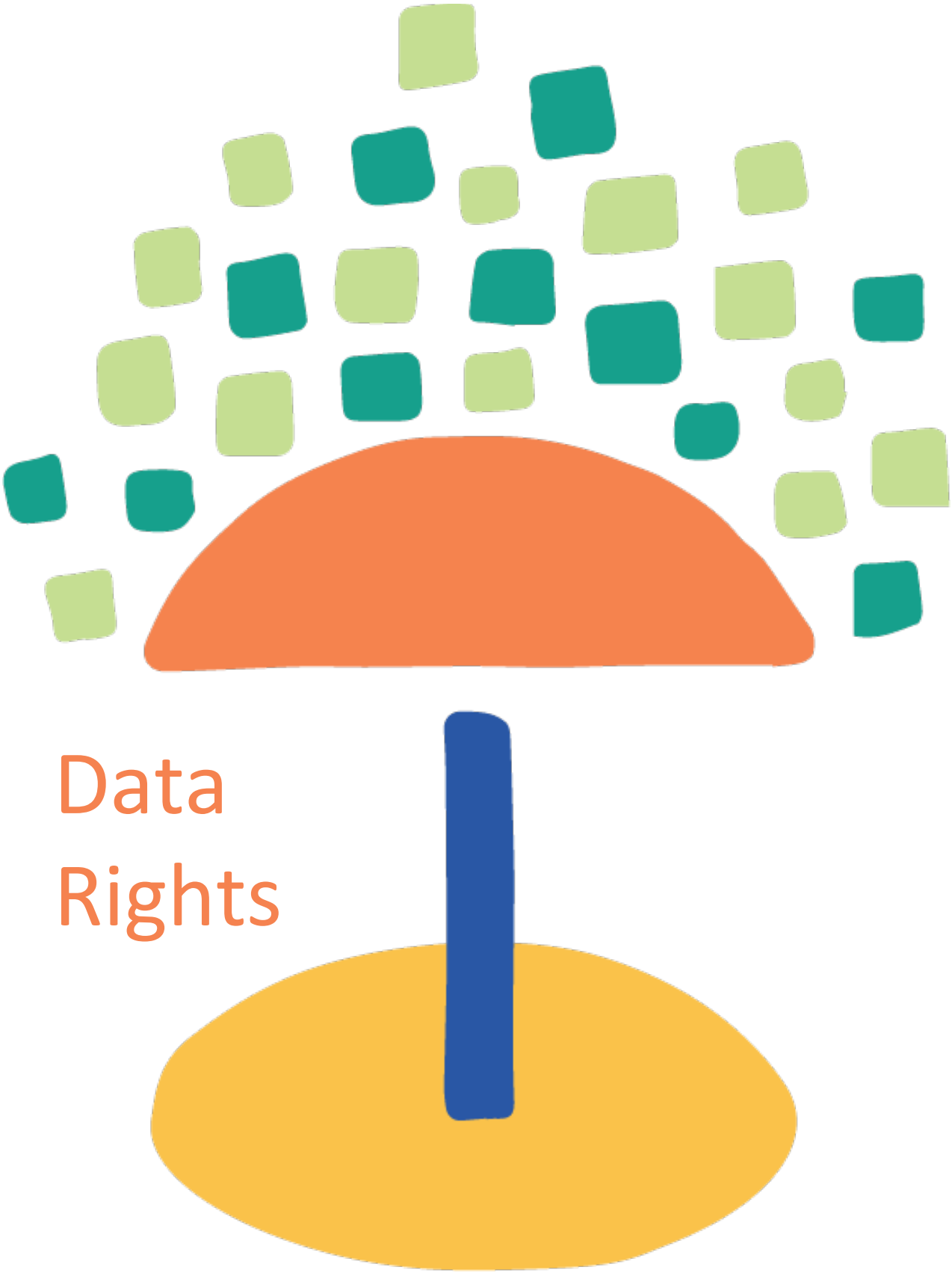
Consumer data:

REFLECTION ACTIVITY: Exploring Your Visible Data Traces
https://myshadow.org/self-doxing-exploring-you-visible-data-traces
Most of us have probably Googled our own names, but search engines don't pick up all the data about you that exists online. This activity walks you through investigating yourself on the internet to see what's already out there about you and to decide if you want to keep certain information private. Source: Tactical Technology Collective: Me and My Shadow

RESOURCE COLLECTION: New York Times: The Privacy Project
https://www.nytimes.com/interactive/2019/opinion/internet-privacy-project.html
A collection of articles, opinion pieces, and interactives that explore technology advances and their impact on the boundaries and future of privacy. Source: New York Times

Educational data:

REPORT: School Monitoring Software Sacrifices Student Privacy for Unproven Promises of Safety
https://www.eff.org/deeplinks/2024/09/school-monitoring-software-sacrifices-student-privacy-unproven-promises-safety
This article found that technology providers are “spying” on students—and school districts are providing inadequate privacy policies or no privacy policy at all to parents and young people. Includes privacy tips for students. Source: Electronic Frontier Foundation


Data
Rights

Data Rights

What are data rights?

Data is any kind of information about you, your community, and the world. Personal data is any data relating to a specific person. Data rights are a person's rights related to their own data.

Introductory resources

VIDEO: Data Privacy and Protection as a Human Right
https://youtu.be/1TAHoAomKQg
The speaker in this video argues that because privacy is a human right, therefore data privacy is also a human right. The key is to raise awareness of data rights so that people can assert these rights and take control of their data. Source: TEDxKanzlerPark

VIDEO: Data Rights 101
https://youtu.be/C3hio0WkRHg
This video goes through several different data rights, including the right to information, the right to access, the right to correction, the right to object, the right to be forgotten, and the right to data portability. Source: OneTrust technology company

VIDEO: Data, Rights, Privacy, and Access
https://youtu.be/C0ZmCu39EM4
The speaker in this video argues for personal data rights: the right to access the datasets created about you, the right to encryption, and the right to anonymity. He also argues that corporations have an ethical duty to use private data for social good and protect it from those who would do harm. Source: TED

VIDEOS: What Is GDPR?
https://youtu.be/acijNEErf-c
https://youtu.be/j6wwBqfSk-o
These two videos came out in 2018 as the European Union's General Data Protection Regulation (GDPR) was taking effect. The GDPR outlined personal data rights and changed data protection requirements for companies around the world, including the United States. Each video explains the GDPR and how it might affect you. Sources: Britain's Channel 4 News and Wall Street Journal

VIDEO: Student Privacy 101
https://studentprivacy.ed.gov/training/student-privacy-101
This video introduces the Family Educational Rights and Privacy Act (FERPA), which outlines parent and student rights regarding educational data. Source: U.S. Department of Education

REPORT: General Comment on Children's Rights in Relation to the Digital Environment
https://5rightsfoundation.com/wp-content/uploads/2024/09/In_Our_Own_Words_Young_Peoples_Version_Online.pdf
This report is a youth-friendly version of the U.N. General Comment on how children's rights apply in the digital world. Source: 5rights Foundation.

SUMMARY: General Comment on Children's Rights in Relation to the Digital Environment
https://5rightsfoundation.com/wp-content/uploads/2025/11/ENGLISH-CF-GC-25.pdf
This summary builds on the young people's version of General Comment No. 25.

Real-world examples

Warrantless Device Searches at the U.S. Border

General introduction to the issue (HuffPost)
https://www.huffpost.com/entry/us-travel-rights-customs-border-phone-search_l_67ddc0c6e4b01b30cdda5f3a

Court cases

- Overview of a specific case (NYTimes) https://www.nytimes.com/2025/03/20/world/europe/us-france-scientist-entry-trump-messages.html
- Stories from the plaintiffs (Electronic Frontier Foundation) https://www.eff.org/pages/alasaad-vs-duke-bios

Legislation to Protect Data Rights

Breakdown of the New York Stop Addictive Feeds Exploitation (SAFE) for Kids Act which was signed into law in 2024.
https://www.commonsensemedia.org/sites/default/files/featured-content/files/safe-for-kids-act-updated-6_4_24-one-pager.pdf

The New York Child Data Protection Act aims to protect anyone under 18 from data collection
https://www.nysenate.gov/newsroom/press-releases/2025/andrew-gounardes/sen-gounardes-new-york-child-data-protection-act-goes

The New York Privacy Act would allow for more protection, transparency, and control around the ways that companies use consumer data. Multiple versions of this bill have been introduced to the senate in the past, and as of February 2026, the third version is in the Senate Committee.
https://www.nysenate.gov/legislation/bills/2025/S3044

Examples and inspiration for data literacy activities

VIDEOS: Debating Digital Rights
https://www.youtube.com/playlist?list=PLVRvouzCZmFeL53IsPtoI0x71KnUQhpbZ
In 2015, the British Library invited young people across the world to debate their digital rights and responsibilities. Discussion prompt videos are still available. Some of the scenarios are specific to the United Kingdom. However, you might draw inspiration from these scenarios and the project format. Source: British Library

VIDEO: How To Read Privacy Policies Without Actually Reading Them
https://on.wsj.com/3v6GOD8
Many companies had to update their privacy policies to adhere to Europe's General Data Protection Regulation (GDPR). This video provides tips on how to tackle the gibberish and take control of your data. Source: Wall Street Journal

VIDEO: How European Students Can Assert Data Rights at School
https://youtu.be/g1x06ba3u60
The General Data Protection Regulation (GDPR) outlines the right for Europeans over the age of 13 to "object" to digital data processing. This includes use of digital technology in schools, so this video provides suggestions for how European students can bring up concerns about tech that they don't want to use at school. Although we don't have the same law in the United States, this video could still serve as inspiration for ways that American students might raise their own questions to school administrators. Source: Science Animated/University of Winchester UK

ONLINE TOOL: Data obfuscation browser tools to fight data profiling
Artist Daniel Howe developed two plug-ins to disrupt the invasive data practices of corporations: AdNauseam (http://rednoise.org/daniel/adnauseam) works with your ad blocker; every ad blocked is then silently clicked by AdNauseam, confusing your data trackers by virtually "liking" all ads. TrackMeNot (http://rednoise.org/daniel/trackmenot) muddles your search queries to help protect you from surveillance and data-profiling by search engines. Firefox also created a tool called Track This (https://blog.mozilla.org/firefox/hey-advertisers-track-this) that opens 100 tabs in your browser to fool trackers into thinking you have different interests than you really do. Source: Artist website and Mozilla

WORKSHOP: Appropriate Tech: Who Can Speak for Whom and How
https://github.com/christopherclary/appropriate-tech
This is a 2.25-hour workshop for young people to explore online personas and appropriation. Participants use their online personas to create art about themselves and their peers. First, the group discusses appropriation versus privacy and artistic freedom versus social justice—looking at a relatively recent art world controversy. Then the group learns about zine culture and how it embraces and critiques appropriation. Participants then create a self-portrait using a thread from their emails, texts, apps, or feeds. Finally, participants portray each other using the same material as a way to see one another differently. Source: Eyebeam.

VIDEO: What Parents Need to Know about their Student's Data
https://studentprivacy.ed.gov/training/what-parents-need-know-about-their-students-data
This video, intended for parents, provides suggestions for questions they might ask their schools/districts about their data collection policies. Source: U.S. Department of Education

Additional resources

VIDEO: Owning Your Digital Data
https://youtu.be/H27PdSnusCQ?t=425
The speaker in this video advocates for digital autonomy through transformation of our current systems. She envisions a future where each of us fully owns our own digital data and can even monetize it—getting our share of the earnings that private companies currently take in using our data. [Note: The first portion of this video lays out introductory concepts around data privacy. The link above will start the video when the speaker starts focusing on data rights and ownership.] Source: TEDxPasadena

ARTICLE: It's Time for a Bill of Data Rights
https://www.technologyreview.com/2018/12/14/138615/its-time-for-a-bill-of-data-rights
This article argues that "data ownership" is a flawed way of thinking about data right, and makes the case that instead we need a framework that focuses on recognizing people's rights over how their data is used. Source: MIT Technology Review

VIDEO: Data Privacy and Consent
https://youtu.be/2iPDpV8ojHA
The speaker in this video argues that we should not accept current models of consent/opt-in as sufficient for protecting our data rights and privacy. He emphasizes that it is important that we ask for consent in a meaningful and effective manner. Source: TEDxIndianaUniversity

REPORT: Manifesto on the Case for Better Governance of Children's Data
https://www.unicef.org/innocenti/reports/case-better-governance-childrens-data-manifesto
UNICEF developed a manifesto calling for better governance of children's data around the world, drawing on the unique needs and rights of children. Specifically, the manifesto outlines ten actions that the international community should take with regard to children's data. Source: UNICEF

WEBPAGE: What Is GDPR, the EU's Data Protection Law?
https://gdpr.eu/what-is-gdpr
Learn about the General Data Protection Regulation (GDPR), put into effect on May 25, 2018. It was drafted and passed by the European Union (EU), and it imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU. (There is currently no equivalent law in the United States.)

ARTICLE: These Are the Privacy and Security Settings to Change on Your iPhone
https://www.wired.com/story/iphone-privacy-and-security-settings/
How to activate the latest privacy and security settings on an iPhone. Updated November 3, 2025. Source: Wired.

WEBPAGE: Parents' Guide to FERPA
https://studentprivacy.ed.gov/resources/ferpa-general-guidance-parents
This guide provides information about the Family Educational Rights and Privacy Act (FERPA), which outlines parent and student rights regarding educational data. Source: U.S. Department of Education

Data Rights Activism

Data Rights

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Data is any kind of information about you, your community, and the world. Personal data is any data relating to a specific person. Data rights are a person's rights related to their own data.

What is data rights activism?

Data rights activism involves taking action to regain power and assert your rights related to your own data.

Introductory resources

VIDEO: What Parents Need to Know about their Student's Data
https://studentprivacy.ed.gov/training/what-parents-need-know-about-their-students-data
This video, intended for parents, provides suggestions for questions they might ask their schools/districts about their data collection policies. Source: U.S. Department of Education

VIDEO: How European Students Can Assert Data Rights at School
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GUIDE: Comparison of State Consumer Privacy Laws
https://iapp.org/resources/article/us-state-privacy-legislation-tracker
Since the California Consumer Privacy Act passed in 2018, other states have proposed similar legislation to protect consumer data in their states. This guide provides an overview of these state-level bills and compares which data rights are covered in each. Source: The International Association of Privacy Professionals

Real-world examples

Advocacy group calls out the ways school-issued devices and software can present privacy risks for teens in the name of digital safety. Includes digital privacy tips for students. (Electronic Frontier Foundation)

https://www.eff.org/deeplinks/2024/09/school-monitoring-software-sacrifices-student-privacy-unproven-promises-safety

Advocacy group argues in support of a bill that would ban Immigration and Customs Enforcement (ICE) and Customs and Border Protection (CBP) agents from using or acquiring biometric surveillance systems, such as facial recognition software. (Electronic Frontier Foundation)
https://www.eff.org/deeplinks/2026/02/yes-ice-out-my-face-act

Advocacy group with projects related to fighting for net neutrality, objecting to Amazon's work with the police, and banning facial recognition (Fight for the Future)
https://www.fightforthefuture.org/projects

Podcast to raise awareness of FBI surveillance (Defending Rights & Dissent)
https://stillspying.org

Advocacy coalition pushing for legislation that protects youth digital privacy and safety in the United States. (Kids Code Coalition)
https://kidscodecoalition.org/

Advocacy group with projects related to fighting surveillance — includes lawsuits, legislative advocacy, public awareness workshops, and op-eds (Surveillance Technology Oversight Project)
https://www.stopspying.org

Project aims to raise awareness about EdTech products that track and collect data about children. Includes an explanation of how this data surveillance process happens and privacy analyses of commonly used EdTech products. (Students Not Products, Human Rights Watch)
https://www.hrw.org/StudentsNotProducts#home

California immigrant rights groups sue facial-recognition company Clearview AI (CBS News)
https://www.cbsnews.com/news/clearview-ai-facial-recognition-sued-mijente-norcal-resist

Examples and inspiration for data literacy activities

Data rights activism:

PODCAST SERIES: Take Back Your Digital Identity
https://project.wnyc.org/privacy-paradox
Subscribers receive a newsletter each day (over 5 days) with tips and a short podcast about an action they can take to reclaim control over their digital privacy. Source: WNYC

GUIDES: Privacy Toolkits
https://www.stopspying.org/toolkits
An anti-surveillance advocacy group developed these toolkits with tips to help individuals protect their privacy. So far, they have toolkits about how protestors can protect themselves from surveillance, how to report surveillance tactics used by law enforcement at public protests, and how law students can protect their data while taking the remote bar exam. Source: Surveillance Technology Oversight Project

GUIDE: Exercising Your California Consumer Privacy Rights
https://privacyrights.org/resources/exercising-your-california-consumer-privacy-rights
This webpage was created to inform CA residents about their data rights and help them take the steps needed to assert those rights. Source: Privacy Rights Clearinghouse

ACTIVITY BOOK: Data Detox Toolkit for Ages 11-16
https://datadetoxkit.org/en/families/datadetox-x-youth

This PDF has a handful of activities meant to encourage young people to think more critically about their digital data practices and to take specific steps in order to regain control of their data. Source: Tactical Tech

ONLINE TOOL: Data obfuscation browser tools to fight data profiling
Artist Daniel Howe developed two plug-ins to disrupt the invasive data practices of corporations: AdNauseam (http://rednoise.org/daniel/adnauseam) works with your ad blocker; every ad blocked is then silently clicked by AdNauseam, confusing your data trackers by virtually "liking" all ads. TrackMeNot (http://rednoise.org/daniel/trackmenot) muddles your search queries to help protect you from surveillance and data-profiling by search engines. Firefox also created a tool called Track This (https://blog.mozilla.org/firefox/hey-advertisers-track-this/) that opens 100 tabs in your browser to fool trackers into thinking you have different interests than you really do. Sources: Artist website and Mozilla

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https://on.wsj.com/2SnUah0
Many companies had to update their privacy policies to adhere to Europe's General Data Protection Regulation (GDPR). This video provides tips on how to tackle the gibberish and take control of your data. Source: Wall Street Journal

ART/RESEARCH PROJECT: Drag Makeup and Facial Recognition Algorithms
https://www.harriskornstein.com/portfolio/screen-queen-face-fail
After noticing that Facebook's facial recognition would incorrectly tag drag queens as each other, artist/researcher Harris Kornstein created the "Screen Queen Face Fail" project to explore the use of drag makeup as a tactic to confuse facial recognition algorithms. Source: Artist website

RESOURCE COLLECTION: Algorithmic Justice
https://www.ajl.org
The Algorithmic Justice organization combines art and research to draw attention to the social implications and potential pitfalls of AI. Their website includes many articles, videos, and additional resources on the issue.

Other youth activism:

Brooklyn students hold walkout in protest of Facebook-designed online program (NY Post)
https://bit.ly/3w0yqXf

UK students protest the use of an algorithm that predicted their grades (The Verge) Note: some explicit language
https://bit.ly/3iqjEoP

Civic Engagement Resource Library with info about how register to vote, find your polling place, talk to your elected representatives, etc. (Earth Guardians)
https://bit.ly/2Slrbuf

Youth pledge not to bank with financier of fossil fuel industry (Earth Guardians)
https://www.earthguardians.org/stmp

Social media campaign to raise awareness of divesting from fossil fuels (Earth Guardians)
https://bit.ly/3w7hKgD

Guide for organizing a town hall about gun violence with your Member of Congress (March for Our Lives)
https://bit.ly/3544AoO

Additional resources

Data rights activism:

RESOURCES & CAMPAIGNS: Exploring How Digital Tech Impacts Society
https://tacticaltech.org/projects
Tactical Tech is a nonprofit organization working on public awareness and advocating for safer, more robust and informed practices around digital technologies. They have a variety of projects and resources, including toolkits to help people increase their online privacy, tools for navigating digital data rights from a gender perspective, and tips for activists to improve their digital security. Source: Tactical Tech

GUIDE: Digital Defense Playbook with Resources for Community Workshops
www.odbproject.org/wp-content/uploads/2019/03/ODB_DDP_HighRes_Spreads.pdf
This lengthy guide provides instructions for facilitating a series of community-based workshops about data literacy and data rights. The sections "Power, Not Paranoia" and "Community Defense Toolkit" are particularly relevant for data rights activism. Source: Our Data Bodies

ZINE: Building Consentful Tech
andalsotoo.net/wp-content/uploads/2018/10/Building-Consentful-Tech-Zine-SPREADS.pdf
This zine makes the case for "consentful technology," which is about having control over our digital bodies. The zine includes information about what "consentful technology" is, why it's important, and how we can work towards achieving it. Source: And Also Too. Content warning: references to sexual violence, clearly indicated at the top of the page.

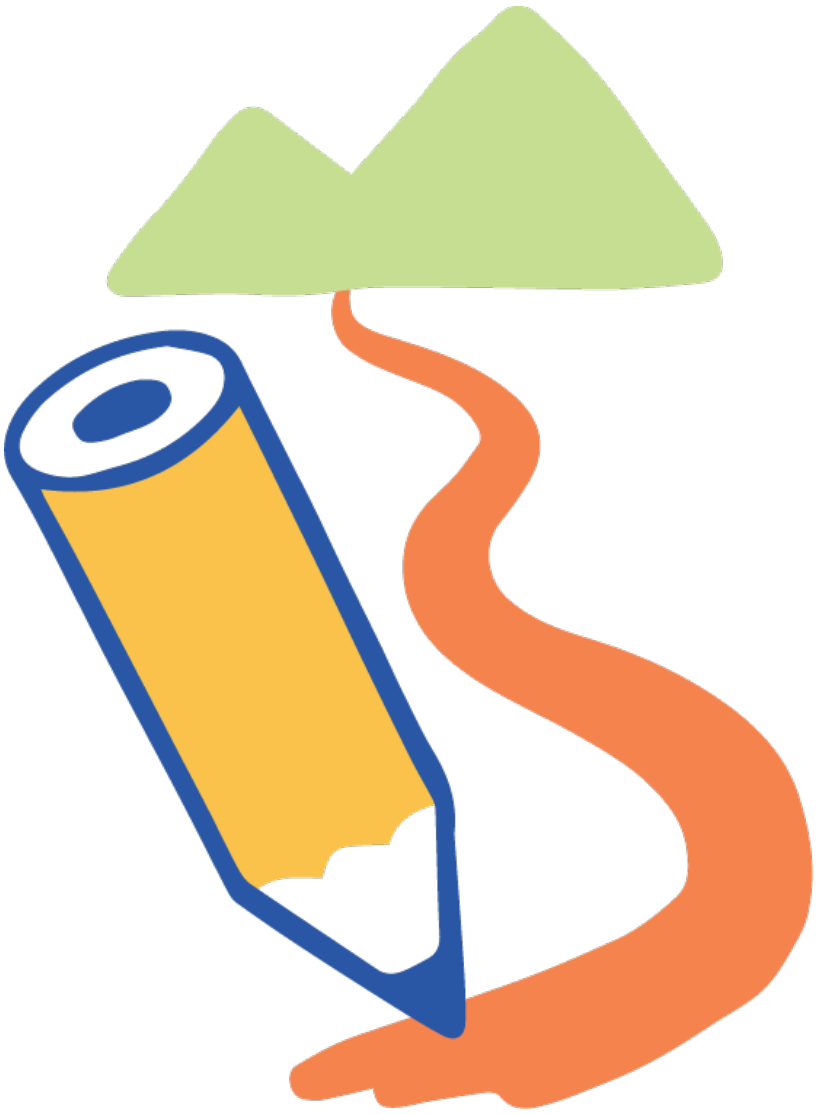
Youth activism and civic engagement:

TOOLKIT: Youth Changing the World
https://drive.google.com/file/d/10hv7dV3h4qyhUeEt4P82K3C9WYFuKJWC/view
This toolkit provides prompts, step-by-step instructions, and tools to help you create change on an issue you care about. Source: Youth Services America

VIDEO: Understanding Civic Power and How to Exercise It Yourself
https://youtu.be/c_Eutci7ack
This video provides an overview of the various levers of power in society, and offers guidance on how individuals can exercise their own power as engaged citizens. The organization that made this video has a full series called Citizen University TV (https://bit.ly/34YAEuk). For example, another instructive video is about the power of citizen lobbying (https://youtu.be/dr5scTPyMZc). Source: Citizen University

ACTIVITIES: Digital Civics Toolkit
https://www.digitalcivicstoolkit.org/modules
This toolkit includes five modules about engaging in digital civics. The modules are written as lesson plans for educators, but young people can dive in and explore the activities and resources themselves. Source: MacArthur Research Network on Youth and Participatory Politics

GUIDE: Know Your Student Rights
https://www.aclu.org/know-your-rights/students-rights
This guide provides an overview of student rights, including First Amendment rights in school, the rights of immigrant students, the rights of LGBTQIA+ students, and your rights if confronted by the police at school. Source: ACLU



Design Resources

The resources below are not necessarily about data but may provide inspiration for designing a data literacy program, activity, or learning resource.

Design Resources

The resources below are not necessarily about data but may provide inspiration for designing a data literacy program, activity, or learning resource.

Guides, tips, how-to, etc.

GUIDE: How to Make Your Own Card Game
https://www.instructables.com/How-to-Make-Your-Own-Card-Game
Tips and ideas for various aspects of creating your own card game, including writing the instructions and making the art. Source: Instructables

How to Fold a Mini 8-Page Zine
Learn how to make a mini 8-page Zine using just a regular 8.5x11 inch piece of paper. You can find instructions in this video (https://youtu.be/Ixqr9e3wCxI)—recommended by a YA librarian!—and in this step-by-step guide with photos (https://www.staples.com/stores/articles/learning/zine--making-for-teens.html). Sources: The Oregonian and Staples

GUIDE: Different Types of Infographics
https://piktochart.com/blog/types-of-infographics/
An infographic is a design or image that presents data in a way that tells a story and makes it more easily understood. This article shows you examples of common types of visualizations to help you choose the right visual for the info you want to convey. Source: Piktochart

VIDEO: How to Make an Infographic
https://www.youtube.com/watch?v=36SIUe_mOZU
Learn how to make and customize an infographic on Canva.

Resources

Free icon art (attribution required)

- Flaticon: https://www.flaticon.com
- The Noun Project: https://thenounproject.com

Free images (attribution required)

- Freepik: https://www.freepik.com
- Pixabay: https://pixabay.com
- Unsplash: https://unsplash.com

Free Google Slides and PowerPoint templates (attribution required)

- Slidesgo: https://slidesgo.com
- Canva: https://www.canva.com/presentations/templates/

Examples & inspiration

ZINES: Zines About Computer Science
https://shop.bubblesort.io/collections/zines
These zines explain computer science in a way that is accessible and inclusive to people who might not think there is a place for them in computer science. Particularly designed with high school girls in mind. Source: Bubble Sort

ACTIVITY: Four Corners
https://bit.ly/2TIxQPw
Real Talk is a program at a public library in Massachusetts where teen leaders organize and lead sessions. Four Corners is one of the Real Talk program's most popular activities. They put up four signs in the different corners of the room: Strongly Agree, Agree, Disagree, or Strongly Disagree. Teen leaders come up with different statements related to the activity. Then they read each one by one and ask teens to go to the corner that best describes their reaction. Then the group debates. Source: Waltham Public Library Teen Room

ACTIVITY: “Can a neural network learn to recognize doodling?”
Quick drawing activity shows how a neural network can recognize patterns in images using machine learning.
https://quickdraw.withgoogle.com/

INTERACTIVES: Digital Escape Rooms Using Google Forms
https://www.cc-pl.org/digital-escape-rooms
Explore various themed “escape rooms” that were created using Google Forms! Each one incorporates different puzzles, online games/activities, and text questions. Source: Campbell County Public Library

ACTIVITIES: Dynamic Data Science
Collection of data science activities for high school and college students. The data is all related to various science topics, including demographic data, evolution, and more. Teachers can sign up for free to assign these modules to students or can complete the activities without an account. Source: CODAP (The Common Online Data Analysis Platform)
https://learn.concord.org/dynamic-data-science

ACTIVITIES: Data Nuggets
Classroom activities for K-12 students using real data and research. Students can go through the whole scientific process, visualize and interpret data, and use data as evidence to support claims. Each data nugget also comes with a Teacher Guide. Source: Data Nuggets
http://datanuggets.org/

Educational Analytics

Educational Analytics

What is educational analytics?

Educational analytics (also called “learning analytics”) is the collection and analysis of student data to inform academic products and experiences. In particular, educational analytics is used to develop personalized/adaptive learning, which provides a somewhat customized learning experience for each student based on their individual performance and needs.

Introductory resources

VIDEO: Personalized Learning in K-12 Schools, Explained
https://youtu.be/hd22P4RDmtg
Personalized learning relies on student data to provide a more customized learning experience for each student. This video explains what personalized learning is, outlines some of its potential benefits, and raises a few concerns. Source: Education Week

ARTICLE: The Promise and Pitfalls of Artificial Intelligence and Personalized Learning
https://bit.ly/2TNef0F
In this interview, a researcher explains how AI is being used to help teachers deliver personalized learning—and raises concerns about bias if students are “classified” in ways that may not be accurate or helpful. Source: Education Week

ARTICLE: Unintended Consequences of AI in K-12 Education
https://bit.ly/3pyPLEc
This article highlights findings from a recent report about how AI is used in schools. The report raises concerns that AI tools have not been built with student privacy in mind and that algorithmic bias could lead to inequitable outcomes. Source: Education Week

VIDEO: Student Privacy 101
https://studentprivacy.ed.gov/training/student-privacy-101
This video introduces the Family Educational Rights and Privacy Act (FERPA), which outlines parent and student rights regarding educational data. Source: U.S. Department of Education

Personalized Learning Companies

- ALEKS (McGraw Hill): https://youtu.be/2jjI3evTDZg
- DreamBox Math: https://youtu.be/G9aGYbsZEaI
- Knewton Alta: https://youtu.be/o0Ci1r4xDQg
- Lexia: https://youtu.be/U-sMxcBp9s0?si=IulM-R4jsVTop-6V

- Smart Sparrow: https://youtu.be/cl4q_gCgCaw

Examples and inspiration for data literacy activities

INFOGRAPHIC & VIDEO: What Is Student Data?
https://dataqualitycampaign.org/resource/what-is-student-data
These resources explore different types of student data and suggest how they might be used to help students—provided certain requirements are met (such as security). Whether or not you like the use of data for personalized learning, this resource could serve as inspiration for how to explain the way student data is used in schools. Source: Data Quality Campaign

VIDEO: Using Data for Personalized Learning
https://youtu.be/6oLNLCO0vfI
This video lays out a vision for how student data can power personalized, or adaptive, learning. Starting at 0:43, the video provides examples drawn from existing educational technology products. Whether or not you like the use of data for personalized learning, this video could serve as inspiration for how to explain the way student data is used in schools. Source: Educause

Additional resources

ONE-PAGER: 7 Things About Adaptive Learning
https://library.educause.edu/-/media/files/library/2017/1/eli7140.pdf
This PDF is structured as an FAQ about adaptive learning, answering questions from “What is it?” to “Who’s doing it”? to “What are the downsides?” Source: Educause

ARTICLE: School Monitoring Software Sacrifices Student Privacy for Unproven Promises of Safety
https://www.eff.org/deeplinks/2024/09/school-monitoring-software-sacrifices-student-privacy-unproven-promises-safety
This report found that technology providers are “spying” on students—and school districts, are providing inadequate privacy policies or no privacy policy at all to parents and young people. Source: Electronic Frontier Foundation
Advocacy group calls out the ways school-issued devices and software can present privacy risks for teens in the name of digital safety. Includes digital privacy tips for students. Source: Electronic Frontier Foundation

VIDEO: What Parents Need to Know about their Student's Data
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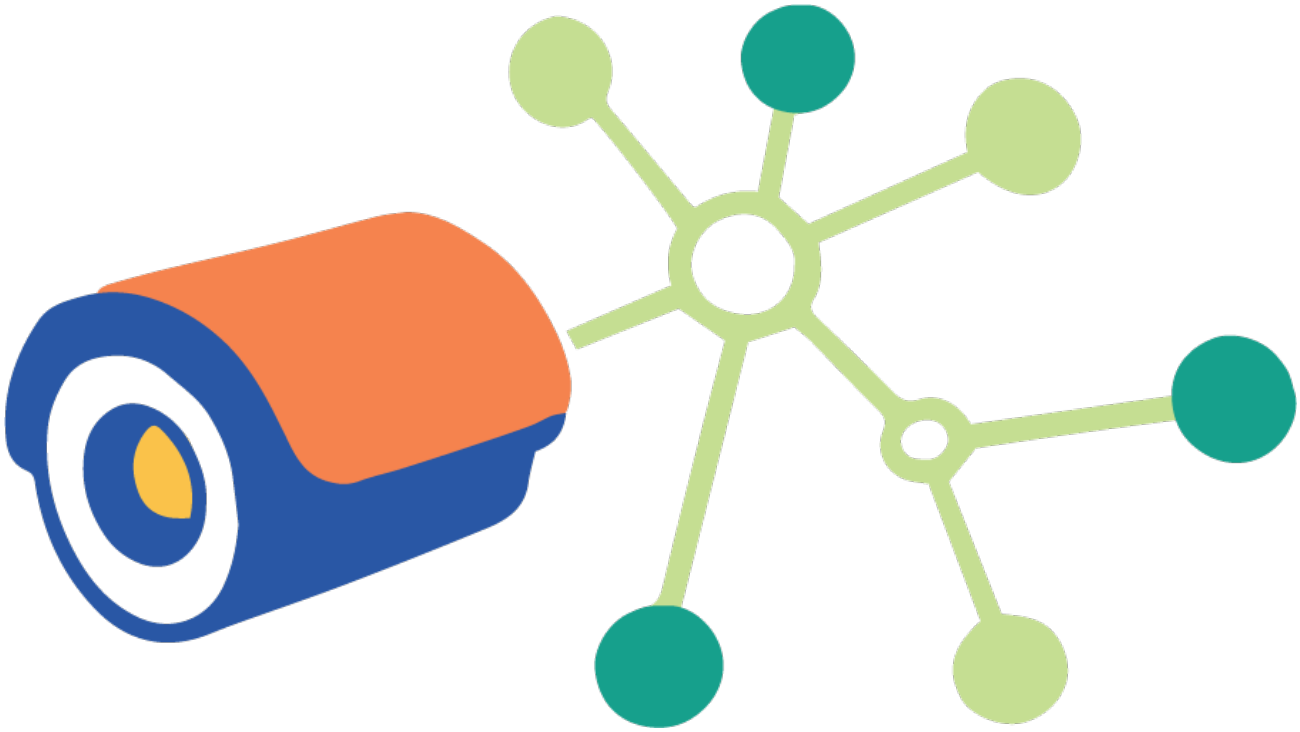


Metadata

Metadata

What is metadata?

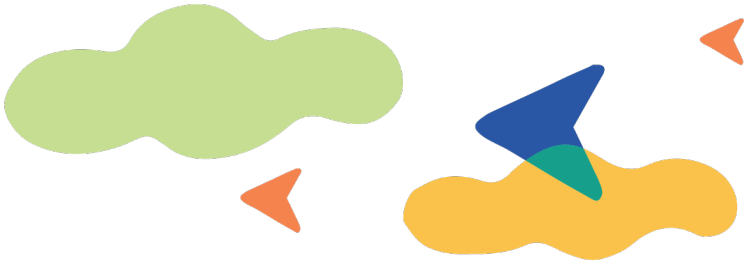
What is metadata? Metadata is information about data. It is used to categorize and describe data so that it can be found.

Introductory resources

VIDEOS: What Is Personal Metadata?
https://youtu.be/P3tlE2jcINI
https://youtu.be/xP_e56DsymA
These videos provide an introduction to metadata, first explaining what it is and then raising a concern about how your own personal metadata might be collected and used in ways you don't approve. Sources: International Committee of the Red Cross and Privacy International

VIDEOS: Types of Metadata, Explained
https://youtu.be/fZWg0ClQkYQ
https://youtu.be/L0vOg18ncWE
These videos provide information about how different kinds of metadata are used to describe and categorize data, particularly for future use. Sources: Canto and Aristotle Metadata Registry

VIDEO: The Power of Metadata
https://youtu.be/i2a8pDbCabg
The speakers in this video explain why metadata is important for understanding context, and then walk through a tool that they built (media.mit.edu/projects/immersion-new/overview) to analyze and visualize email metadata. Though the speakers argue that metadata is a powerful tool for gaining a fuller understanding of something, they also warn that privacy should be protected. Source: TEDxCambridge



Real-world examples

Photo metadata utilized by 4Chan users to identify Burger King employee and get them fired (Yahoo Style)
https://www.latimes.com/business/la-fi-mo-burger-king-lettuce-4chan-20120718-story.html

Photo metadata leads authorities to shooting suspect on the run (NPR)
https://n.pr/3pxFyIh

Google accidentally reveals info about an upcoming phone, gleaned by the public through metadata for a photo in a blog post (The Verge)
https://bit.ly/3xbZV0j

Study reveals the kind of personal information you can glean from phone metadata (PBS News)
https://www.pbs.org/newshour/science/your-phone-metadata-is-more-revealing-than-you-think

Technologists using scraped metadata from Parler to reveal details about the Capitol riot (VICE)
https://www.vice.com/en/article/qjpevv/archivists-parler-capitol-hill-crimes

Examples and inspiration for data literacy activities

ONLINE ENCYCLOPEDIA ENTRY: Metadata Facts for Kids
https://kids.kiddle.co/Metadata
All content from this encyclopedia article (including the article images and facts) can be freely used under Attribution-ShareAlike license. The information is limited, but could be incorporated into your design project (with proper attribution). Source: Kiddle

ACTIVITIES: Learning About Metadata
https://teachingprivacy.org/module-1-youre-leaving-footprints
This lesson plan includes activities designed to teach students about metadata. In particular, check out "News Stories You Can Use" (some of which are also included in this handout), "Whole-Class Brainstorm & Discussion: What Kind of Data Do You Generate?", and the associated slide deck (https://bit.ly/3v5BfF5). These activities might provide inspiration for how you teach others about metadata. Source: International Computer Science Institute

Additional resources

ARTICLES: Metadata in Personalized Learning Platforms
https://bit.ly/3waUZZm
https://bit.ly/3cpGKYY
Personalized/adaptive learning programs rely on metadata to organize and deliver various learning resources. These two articles provide a high-level introduction to how that works, based on tagging that happens behind the scenes. Sources: EdSurge and EdTech Digest

GUIDE: Location Metadata
https://myshadow.org/location-tracking
Location tracking can provide a very detailed picture of who you are, where you go, and who you spend time with. This guide explains some of the ways that location data is collected, such as your Wi-Fi history and recorded location in services like Gmail. Source: Tactical Technology Collective: Me and My Shadow

LESSON PLAN: Tracking Movements with Metadata
teachengineering.org/activities/view/uon-2543-tracking-movements-metadata-activity
Through this lesson, students learn to extract metadata from digital images, then analyze that metadata to identify when and where the images were taken. Source: University of Colorado Boulder

ARTICLE: Photo Metadata
https://www.bbc.com/future/article/20210324-the-hidden-fingerprint-inside-your-photos
This article includes real-world examples of how photo metadata can reveal more than the subject might like and then discusses the practices digging for that metadata through “photo-fingerprinting” and “digital image forensics.” Source: BBC

VIDEO: What Is Video Metadata?
https://youtu.be/A0g8JnuwiX8
This video addresses video metadata in particular and explains how it can be useful or harmful for the creator and subjects, depending on the circumstances. The video was created for activists who archive and preserve videos documenting human rights abuses, but raises concerns that can be applied more broadly. Source: WITNESS

Protecting Your Data

Protecting Your Data

Real-world examples of major data hacks and breaches

Cyberattack on education tech company PowerSchools led to a breach of personal data of more than 60 million students and 10 million educators in 2024.

- First reported in January 2025: https://www.the74million.org/article/wisconsin-district-sues-ed-tech-giant-powerschool-after-massive-data-breach/
- Report shows that PowerSchools missed a basic security step https://www.nbcnews.com/tech/security/powerschool-hack-data-breach-protect-student-school-teacher-safe-rcna189029

Personal information of more than 10 million students was stolen by hackers from education technology company Illuminate Education in 2021.

- https://www.the74million.org/article/ftc-state-ags-crack-down-on-ed-tech-company-after-massive-student-data-breach/

Software tool used by school boards nationwide accidentally published 64,000 confidential documents on their website and failed to notify school districts about the breach.

- https://www.the74million.org/article/school-districts-unaware-boarddocs-software-published-their-private-files/

Data from 87 million Facebook users were harvested by Cambridge Analytica, and used without authorization to build profiles and target individual U.S. voters ahead of the 2016 election

- First reported in March 2018
    - NYTimes nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html
    - The Observer/Guardian https://bit.ly/3gpED8K
- Collection of further coverage from NYTimes https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html
- Collection of further coverage from The Guardian https://www.theguardian.com/news/series/cambridge-analytica-files

Hackers accessed Anthem health insurance company database with personally identifiable information of 80 million people

- News coverage as details emerged in 2015
    - USA Today www.usatoday.com/story/tech/2015/02/04/health-care-anthem-hacked/22900925
    - CNET https://www.cnet.com/news/anthems-hacked-customer-data-was-not-encrypted
    - Los Angeles Times https://www.latimes.com/business/la-fi-anthem-hack-fallout-20150206-story.html

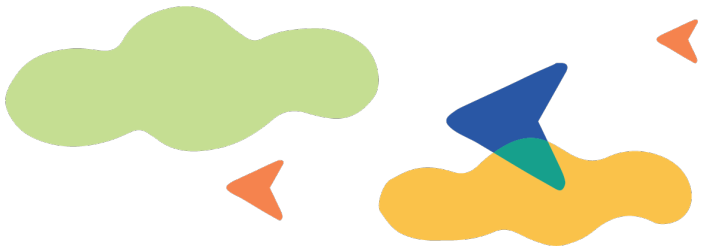
- Anthem agreed to $40 million settlement (Reuters)
  https://reut.rs/2T8KXcA

In two breaches of U.S. government databases discovered in 2014, Chinese hackers stole personal data of 22 million people who applied for federal government background checks (including current government employees, as well as their friends and families)

- Coverage about the data breaches as details were shared with the public in 2015 (Washington Post)
  - News report
    https://wapo.st/2RB4FgF
  - FAQs
    https://wapo.st/3g4Lx41
- 2016 coverage of congressional findings after year-long investigation (Reuters)
  https://reut.rs/3v5nLJJ

Russian hacker group Nobelium targets U.S. federal agencies and companies

- SolarWinds data breach first reported in 2020 (Reuters)
  https://reut.rs/3pBhJix
- Same group suspected of new attacks in 2021 (CNN)
  www.cnn.com/2021/05/28/tech/microsoft-solarwinds-russia-hack-intl-hnk/index.html



What are data rights?

Data is any kind of information about you, your community, and the world. Personal data is any data relating to a specific person. Data rights are a person's rights related to their own data.

What is data rights activism?

Data rights activism involves taking action to regain power and assert your rights related to your own data.

Data rights introductory resources

VIDEO: Data Privacy and Protection as a Human Right
https://youtu.be/1TAHoAomKQg
The speaker in this video argues that because privacy is a human right, therefore data privacy is also a human right. The key is to raise awareness of data rights so that people can assert these rights and take control of their data. Source: TEDxKanzlerPark

VIDEO: Data Rights 101
https://youtu.be/C3hio0WkRHg
This video goes through several different data rights, including the right to information, the right to access, the right to correction, the right to object, the right to be forgotten, and the right to data portability. Source: OneTrust technology company

REPORT: General Comment on Children's Rights in Relation to the Digital Environment
https://5rightsfoundation.com/wp-content/uploads/2024/09/In_Our_Own_Words_Young_Peoples_Version_Online.pdf
This report is a youth-friendly version of the U.N. General Comment on how children's rights apply in the digital world. Source: 5rights Foundation.

SUMMARY: General Comment on Children's Rights in Relation to the Digital Environment
https://5rightsfoundation.com/wp-content/uploads/2025/11/ENGLISH-CF-GC-25.pdf
This summary builds on the young people's version of General Comment No. 25.

VIDEO: Data, Rights, Privacy, and Access
https://youtu.be/C0ZmCu39EM4
The speaker in this video argues for personal data rights: the right to access the datasets created about you, the right to encryption, and the right to anonymity. He also argues that corporations have an ethical duty to use private data for social good and protect it from those who would do harm. Source: TED

REPORT: Manifesto on the Case for Better Governance of Children's Data
https://www.unicef.org/innocenti/reports/case-better-governance-childrens-data-manifesto
UNICEF developed a manifesto calling for better governance of children's data around the world, drawing on the unique needs and rights of children. Specifically, the manifesto outlines ten actions that the international community should take with regard to children's data. Source: UNICEF

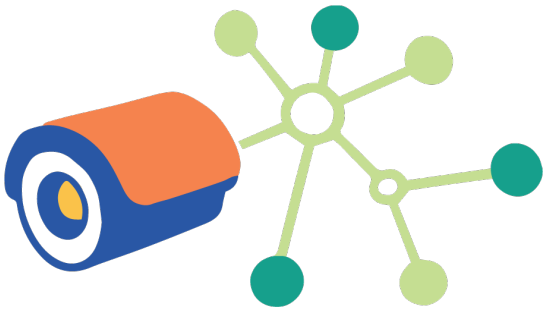
Data protection laws

European Union

https://youtu.be/acijNEErf-c
https://youtu.be/j6wwBqfSk-o
These two videos came out in 2018 as the European Union's General Data Protection Regulation (GDPR) was taking effect. The GDPR outlined personal data rights and changed data protection requirements for companies around the world, including the United States. Each video explains the GDPR and how it might affect you. Sources: Britain's Channel 4 News and Wall Street Journal

United States

GUIDE: Comparison of State Consumer Privacy Laws
https://iapp.org/resources/article/us-state-privacy-legislation-tracker
The United States does not have an equivalent to the GDPR at the federal level. However, 19 states have passed comprehensive consumer privacy bills. An additional 17 states have proposed similar legislation to protect consumer data. This guide provides an overview of these state-level bills and compares which data rights are covered in each. Source: The International Association of Privacy Professionals



New York State Legislation

New York Stop Addictive Feeds Exploitation (SAFE) for Kids Act

- Breakdown of the act https://www.commonsensemedia.org/sites/default/files/featured-content/files/safe-for-kids-act-updated-6_4_24-one-pager.pdf

New York Child Data Protection Act

- Press release (Sen. Gounardes) https://www.nysenate.gov/newsroom/press-releases/2025/andrew-gounardes/sen-gounardes-new-york-child-data-protection-act-goes

New York Privacy Act

- Current Status of New York Privacy Act: https://www.nysenate.gov/legislation/bills/2025/S3044

Contact info for your state representatives

- Find your State Senator https://www.nysenate.gov/find-my-senator
- Find your State Assemblymember https://nyassembly.gov/mem/search
- Send a message to the Governor (phone number also at bottom of page) https://www.governor.ny.gov/content/governor-contact-form

Strategies to take control of your data

GUIDE: How to Control Your Data
https://myshadow.org/increase-your-privacy
These resources provide how-to information on taking control of your data and protecting your privacy. For example:

- using Firefox as your browser and choosing the maximum privacy setting options: https://myshadow.org/how-to-increase-your-privacy-on-firefox
- switching to Signal or other secure chat apps: https://myshadow.org/alternative-chat-apps

- using DuckDuckGo for search instead of Google: https://myshadow.org/alternatives-to-google
- Source: Tactical Technology Collective: Me and My Shadow

ACTIVITY: Check the Settings in Snapchat, Twitter, and Facebook
https://www.lse.ac.uk/my-privacy-uk/who-has-my-data
Sometimes apps collect information that's unexpected. It's hard to know where our data ends up or how long it stays there, even after we have deleted our original profile. This activity provides links for you to check who has your data on social media and update your privacy settings to better protect your data. Source: London School of Economics: My Data & Privacy online toolkit

GUIDE: Privacy Tips
https://datadetoxkit.org/en/privacy
These resources provide step-by-step tips for protecting your data privacy. For example:

- delete apps that you no longer use or have privacy concerns about: https://datadetoxkit.org/en/privacy/appcleanse
- go through your phone's Location Services settings and turn off location access per app: https://datadetoxkit.org/en/privacy/essentials
- consider using browser extensions like Privacy Badger: https://datadetoxkit.org/en/privacy/browser
- Source: Tactical Technology Collective: Data Detox Toolkit

GUIDE: How Do Trackers Work and How Can You Stop Them
https://coveryourtracks.eff.org/learn
When you browse the internet, trackers collect data on your behavior and assemble a profile of your online activity across multiple websites. Learn more about these trackers and steps you can take to block them. Source: Electronic Frontier Foundation

GUIDE: How to Opt Out of Data Broker Sites
https://bit.ly/3cuOdWF
This guide provides websites and opt-out links for various data broker sites. Source: VICE

ACTIVITY: Exploring Your Visible Data Traces
https://myshadow.org/self-doxing-exploring-you-visible-data-traces
Most of us have probably Googled our own names, but search engines don't pick up all the data about you that exists online. This activity walks you through investigating yourself on the internet to see what's already out there about you and to decide if you want to keep certain information private. Source: Tactical Technology Collective: Me and My Shadow

VIDEO: Apple Explains New Privacy Feature, App Tracking Transparency
https://on.wsj.com/3w9pLSg
The latest update to the iPhone's operating system features a new privacy feature called App Tracking Transparency. In this video, an executive from Apple speaks about the company's introduction of the feature to give users more control over their data privacy. Source: Wall Street Journal

Examples and inspiration for data literacy activities

Discussing and asserting your rights:

VIDEOS: Debating Digital Rights
https://www.youtube.com/playlist?list=PLVRvouzCZmFeL53IsPtoI0x71KnUQhpbZ
In 2015, the British Library invited young people across the world to debate their digital rights and responsibilities. Discussion prompt videos and a teacher guide are still available. Some of the scenarios are specific to the United Kingdom. However, you might draw inspiration from these scenarios and the project format. Source: British Library

GUIDE: Exercising Your California Consumer Privacy Rights
https://privacyrights.org/resources/exercising-your-california-consumer-privacy-rights
This webpage was created to inform CA residents about their data rights and help them take the steps needed to assert those rights. Source: Privacy Rights Clearinghouse

VIDEO: How European Students Can Assert Data Rights at School
https://youtu.be/g1x06ba3u60
The General Data Protection Regulation (GDPR) outlines the right for Europeans over the age of 13 to "object" to digital data processing. This includes use of digital technology in schools, so this video provides suggestions for how European students can bring up concerns about tech that they don't want to use at school. Although we don't have the same law in the United States, this video could still serve as inspiration for ways that American students might raise their own questions to school administrators. Source: Science Animated/University of Winchester UK

Data rights activism:

ONLINE TOOL: Data obfuscation browser tools to fight data profiling
Artist Daniel Howe developed two plug-ins to disrupt the invasive data practices of corporations: AdNauseam (http://rednoise.org/daniel/adnauseam) works with your ad blocker; every ad blocked is then silently clicked by AdNauseam, confusing your data trackers by virtually "liking" all ads. TrackMeNot (http://rednoise.org/daniel/trackmenot) muddles your search queries to help protect you from surveillance and data-profiling by search engines. Firefox also created a tool called Track This (https://blog.mozilla.org/firefox/hey-advertisers-track-this) that opens 100 tabs in your browser to fool trackers into thinking you have different interests than you really do. Source: Artist website

GUIDES: Privacy Toolkits
https://www.stopspying.org/toolkits
An anti-surveillance advocacy group developed these toolkits with tips to help individuals protect their privacy. So far, they have toolkits about how protestors can protect themselves from surveillance, how to report surveillance tactics used by law enforcement at public protests, and how law students can protect their data while taking the remote bar exam. Source: Surveillance Technology Oversight Project

ART/RESEARCH PROJECT: Drag Makeup and Facial Recognition Algorithms
https://www.harriskornstein.com/portfolio/screen-queen-face-fail
After noticing that Facebook's facial recognition would incorrectly tag drag queens as each other, artist/researcher Harris Kornstein created the "Screen Queen Face Fail" project to explore the use of drag makeup as a tactic to confuse facial recognition algorithms. Source: Artist website

How to protect your private data:

VIDEO: How To Read Privacy Policies Without Actually Reading Them
https://on.wsj.com/3w6BMrO
Many companies had to update their privacy policies to adhere to Europe's General Data Protection Regulation (GDPR). This video provides tips on how to tackle the gibberish and take control of your data. Source: Wall Street Journal

ACTIVITY BOOK: Data Detox Toolkit for Ages 11-16
https://datadetoxkit.org/en/families/datadetox-x-youth
This PDF has a handful of activities meant to encourage young people to think more critically about their digital data practices and to take specific steps in order to regain control of their data. Source: Tactical Tech

PODCAST SERIES: Take Back Your Digital Identity
https://project.wnyc.org/privacy-paradox
Subscribers receive a newsletter each day (over 5 days) with tips and a short podcast about an action they can take to reclaim control over their digital privacy. Source: WNYC

Additional resources

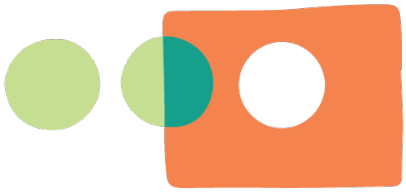
Data rights:

VIDEO: Owning Your Digital Data
https://youtu.be/H27PdSnusCQ?t=425
The speaker in this video advocates for digital autonomy through transformation of our current systems. She envisions a future where each of us fully owns our own digital data and can even monetize it—getting our share of the earnings that private companies currently take in using our data. [Note: The first portion of this video lays out introductory concepts around data privacy. The link above will start the video when the speaker starts focusing on data rights and ownership.] Source: TEDxPasadena

ARTICLE: It's Time for a Bill of Data Rights
https://www.technologyreview.com/2018/12/14/138615/its-time-for-a-bill-of-data-rights
This article argues that "data ownership" is a flawed way of thinking about data rights, and makes the case that instead we need a framework that focuses on recognizing people's rights over how their data is used. Source: MIT Technology Review

VIDEO: Data Privacy and Consent
https://youtu.be/2iPDpV8ojHA
The speaker in this video argues that we should not accept current models of consent/opt-in as sufficient for protecting our data rights and privacy. He emphasizes that it is important that we ask for consent in a meaningful and effective manner. Source: TEDxIndianaUniversity

WEBPAGE: What Is GDPR, the EU's Data Protection Law?
https://gdpr.eu/what-is-gdpr
Learn about the General Data Protection Regulation (GDPR), put into effect on May 25, 2018. It was drafted and passed by the European Union (EU), and it imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU. (There is currently no equivalent law in the United States.)



Data rights activism:

GUIDE: Digital Defense Playbook with Resources for Community Workshops
www.odbproject.org/wp-content/uploads/2019/03/ODB_DDP_HighRes_Spreads.pdf
This lengthy guide provides instructions for facilitating a series of community-based workshops about data literacy and data rights. The sections "Power, Not Paranoia" and "Community Defense Toolkit" are particularly relevant for data rights activism. Source: Our Data Bodies

RESOURCES & CAMPAIGNS: Exploring How Digital Tech Impacts Society
https://tacticaltech.org/projects
Tactical Tech is a nonprofit organization working on public awareness and advocating for safer, more robust and informed practices around digital technologies. They have a variety of projects and resources, including toolkits to help people increase their online privacy, tools for navigating digital data rights from a gender perspective, and tips for activists to improve their digital security. Source: Tactical Tech

ZINE: Building Consentful Tech
andalsotoo.net/wp-content/uploads/2018/10/Building-Consentful-Tech-Zine-SPREADS.pdf
This zine makes the case for "consentful technology," which is about having control over our digital bodies.

The zine includes information about what "consentful technology" is, why it's important, and how we can work towards achieving it. Source: And Also Too. Content warning: references to sexual violence, clearly indicated at the top of the page.

Advocacy coalition pushing for legislation that protects youth digital privacy and safety in the United States. (Kids Code Coalition)
https://kidscodecoalition.org/

Real-world examples of data rights activism:

Advocacy group publishes a model version of the Age-Appropriate Design Code bill, which requires tech companies to design their products to protect children's privacy and safety.
https://epic.org/press-release-epic-publishes-model-bill-to-protect-minors-from-online-harms-and-promote-safer-platform-design/

Advocacy group challenges Ring spokesperson Shaq over privacy concerns (Electronic Frontier Foundation)
https://youtu.be/BeyJUq87Pds

Advocacy group submits public comments to federal agencies with recommendations for stronger privacy protection (Electronic Privacy Information Center)
https://epic.org/content-types/apa-comments/

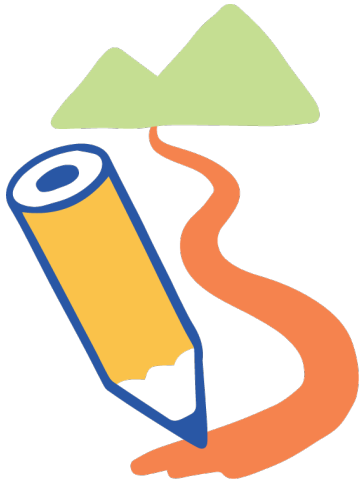
Advocacy group with projects related to fighting for net neutrality, objecting to Amazon's work with the police, and banning facial recognition (Fight for the Future)
https://www.fightforthefuture.org/projects

Advocacy group with projects related to fighting surveillance — includes lawsuits, legislative advocacy, public awareness workshops, and op-eds (Surveillance Technology Oversight Project)
https://www.stopspying.org

Advocacy coalition ran a multi-pronged campaign against New York State student database — includes press conference, op-eds, testimony at state legislature hearings, and lawsuit (Parent Coalition for Student Privacy)
https://studentprivacymatters.org/inbloom-timeline

Podcast to raise awareness of FBI surveillance (Defending Rights & Dissent)
https://stillspying.org

California immigrant rights groups sue facial-recognition company Clearview AI (CBS News)
https://www.cbsnews.com/news/clearview-ai-facial-recognition-sued-mijente-norcal-resist



Surveillance

Surveillance

What is surveillance?

Surveillance is when data about you is collected and monitored by someone else on an ongoing basis, often without your knowledge.

Introductory resources

ARTICLE: Overview of School Surveillance
theguardian.com/education/2019/dec/02/school-surveillance-us-schools-safety-shootings
This article provides an overview of various surveillance strategies used in schools, and includes responses from some students and parents around the country. Source: The Guardian. Content warning: mentions of school shootings, suicide.

ARTICLE: Data Surveillance Is All Around Us
https://bit.ly/3uZ7TZ6
This article outlines data surveillance in various forms. No longer limited just to online behavior tracking, data surveillance has become more invasive. Now your personal data is feeding government surveillance and policies in both the public and private sector. Source: The Conversation

VIDEO: How Giving Up Personal Privacy Can Lead to Surveillance
www.nytimes.com/video/opinion/100000006794185/privacy-surveillance-video.html
Nothing to hide, nothing to fear? You may feel comfortable trading your privacy in exchange for free access to a social media app or a phone, but your personal comfort level isn't actually the most important thing when it comes to the connection between personal data and mass surveillance. Source: New York Times: The Privacy Project

Real-world examples

Surveillance in Schools

Content warning: mentions of school shootings, suicide
School use of thermal cameras with facial recognition technology (Wired)
https://www.wired.com/story/schools-adopt-face-recognition-name-fighting-covid

Other COVID-tracking surveillance tech in schools (Wall Street Journal)
www.wsj.com/articles/back-to-school-look-out-for-covid-tracking-surveillance-tech-11597150800

Audio surveillance in schools (CBS News)
https://youtu.be/hjp-2tFaXqE

- Based on Propublica reporting
  https://bit.ly/3gdVqLK

Student social media surveillance (Human Rights Watch)
https://www.hrw.org/news/2019/07/03/us-students-rights-risk-social-media-monitoring

Gaggle student surveillance product that monitors all data related to student Google or Microsoft accounts (Buzzfeed News) Note: some explicit language
buzzfeednews.com/article/carolinehaskins1/gaggle-school-surveillance-technology-education

Surveillance by Law Enforcement and Government

Illegal NSA surveillance operations revealed by Edward Snowden (Reuters)
https://reut.rs/3w8639s

Miami Police use of facial recognition in arrest (Miami NBC 6)
https://bit.ly/2TdoGuk

Exponential increase in partnerships between Amazon Ring and law enforcement across the U.S. (Electronic Frontier Foundation)
https://youtu.be/BeyJUq87Pds

Baltimore police dept use of spy planes (ACLU)
https://youtu.be/-GUAu3pfoT8

Police surveillance at protests (Electronic Frontier Foundation)
https://www.eff.org/deeplinks/2020/06/how-identify-visible-and-invisible-surveillance-protests

Automatic license plate readers (Electronic Frontier Foundation)
https://www.eff.org/deeplinks/2015/01/what-we-learned-oakland-raw-alpr-data

Facial recognition used by law enforcement around the world (Last Week Tonight with John Oliver) Note: some explicit language
https://youtu.be/jZjmlJPJgug

Detroit Police wrongful arrest based on flawed facial recognition technology (ACLU)
https://youtu.be/Tfgi9A9PfLU

Immigration and Customs Enforcement (ICE) is acquiring new surveillance tools, including facial recognition apps and software providing access to location-based data.
https://www.npr.org/2025/11/08/nx-s1-5585691/ice-facial-recognition-immigration-tracking-spyware

Facial recognition technology, and algorithms to determine “social credit scores” in China (VICE News)
https://youtu.be/CLo3e1Pak-Y

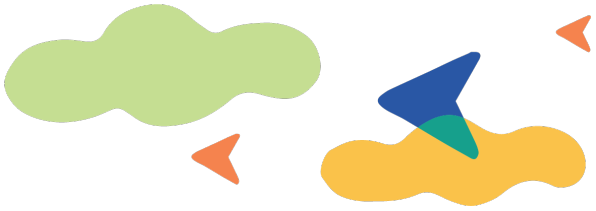
China’s use of facial recognition technology to identify and track the Uighur community (NYTimes)
nytimes.com/2019/04/14/technology/china-surveillance-artificial-intelligence-racial-profiling.html

Saudi Arabia accused of planting spyware on political dissident’s phone (CBC News)
cbc.ca/news/science/omar-abdulaziz-spyware-saudi-arabia-nso-citizen-lab-quebec-1.4845179

Consumer Surveillance

Physical stores use surveillance software to collect data on customer behavior (NYTimes)
https://youtu.be/GBibik04IWU

Super Bowl Ad for Ring camera causes backlash and concerns about privacy.
https://www.youtube.com/watch?v=9GmqIlYx_rs



Examples and inspiration for data literacy activities

VIDEO: Government Surveillance, Explained
https://youtu.be/GoM4jIZbTtQ
This animated video explains the basics of how the government gathers data on its people, what kind of data are collected, and how long the data are kept. Source: The Guardian

VIDEO: NSA Spying Allegations Explained in 90 Seconds
https://youtu.be/el_WYCUHP9Y
This video from 2013 quickly walks you through some of the major allegations about the NSA's surveillance practices, which were being exposed at that time. Source: BBC News

GUIDE: Surveillance Self-Defense for Students
https://ssd.eff.org/en/module/privacy-students
This guide provides background information on current surveillance practices in schools, and then provides tips for how to protect your privacy as a student. Source: Electronic Frontier Foundation

ZINE: Anti-Surveillance Guide
https://freegovinfo.info/wp-content/uploads/2014/04/rr-anti-surveillance-zine.pdf
A group of "radical reference librarians" created this zine to draw attention to surveillance practices and provide tools, tips, and readings for knowing your rights and protecting your data. Source: Free Government Information (FGI)

VIDEO: Debunking NSA Surveillance Claims
https://youtu.be/eptZuXkUGmI
In the past, NSA and other government officials have made certain claims to assure Americans that they were not overreaching when it came to their surveillance practices. However, more recent evidence has shown that the NSA was not being truthful with the public. This video identifies six claims that have now been debunked. Source: ProPublica

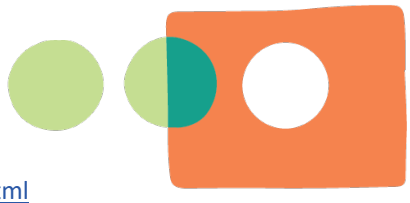
ARTICLE: Game Brings Attention to Mass Surveillance and Data Harvesting
https://bit.ly/3wYX1vI
This article provides information about a game series called Orwell that asks players to question systems of surveillance. Source: The Guardian

- Original game and trailer at GOG: https://www.gog.com/game/orwell

ARTICLE: NSA-Style Surveillance Video Game
newsweek.com/edward-snowden-inspires-nsa-style-surveillance-video-game-425874
This article provides information about a game called Need to Know, which was inspired by Edward Snowden's revelations about NSA surveillance practices. Source: Newsweek

- Original game trailer and more details at Kickstarter: https://bit.ly/3gnsot0
- Game on Steam: https://store.steampowered.com/app/490930/Need_to_Know/

Additional resources



RESOURCE COLLECTION: New York Times: The Privacy Project
https://www.nytimes.com/interactive/2019/opinion/internet-privacy-project.html
A collection of articles, opinion pieces, and interactives that explore technology advances and their impact on the boundaries and future of privacy.

VIDEO: The Rise of Government Surveillance After 9/11
https://vimeo.com/41484072
This video traces the increase in surveillance by the government, starting after September 11th and continuing under the next presidential administration. (This video was posted in 2012). Source: American Library Association

EXHIBIT: Hacking Surveillance Footage
https://www.100archive.com/projects/hack-the-city
For this project, artist Benjamin Gaulon used a wireless video receiver to hack into wireless surveillance cameras. His goal was to raise awareness of the fact that these devices broadcast their signals, leaving them vulnerable. Source: 100 Archive

Appendix

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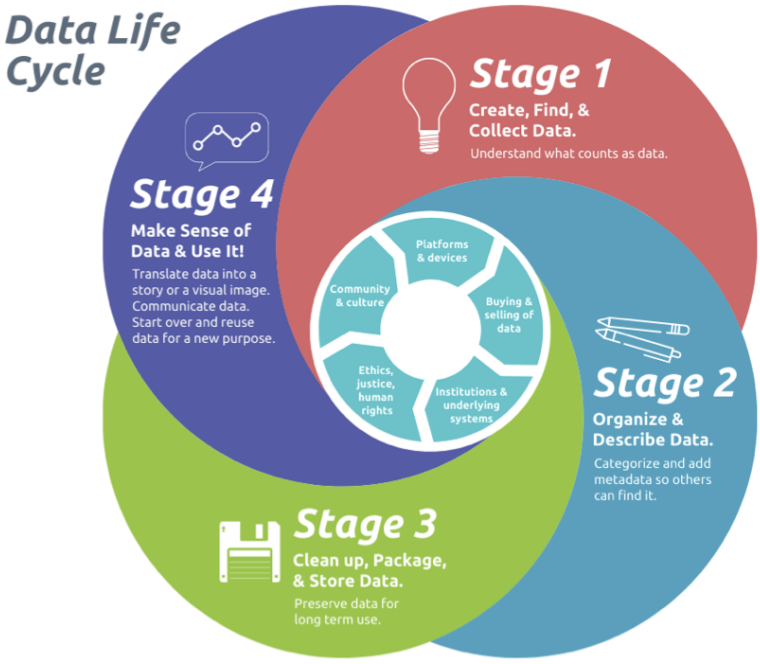
DICTIONARY OF DATA TERMS

Data	*Data* is any kind of information about you, your community, and the world. *Big Data* are extremely large data sets that may be analyzed computationally to reveal patterns in human behavior.
Data Brokers	Companies that collect and sell people's information.
Data Dossier	Your data dossier is all the collected data about you. This data can be bought and sold, and used to predict or even manipulate someone's behavior.
Data Economy	A system that includes the production, distribution, and consumption of data based on its value.
Data Flows	The way that data flows throughout society, over networks, through institutions, between people, and across platforms and devices.
Data Infrastructures	The telecommunication networks that support data flows.
Data Intermediaries	People who connect others with data.
Data Literacy	Understanding data, your data rights, and how to use data to make a better world.

Data Rights	A person's rights related to their own data.
Data Subject	A person who can be identified through data about them.
Digital Traces	Footprints you leave behind in the digital world.
Metadata	Metadata is information about data. It is used to categorize and describe data so that it can be found.
Personal Data	Any data relating to a specific person.
Privacy	Data privacy refers to the level of control that you have over other people's access to data about you.
Surveillance	Surveillance is when data about you is collected and monitored by someone else, often without your knowledge.



Key Concepts

Data is any kind of information about you, your community, and the world.

The Data Life Cycle includes all of the stages of data throughout its life, from its creation, curation, to distribution and reuse

Data Literacy is knowing how to use data *and* knowing your data rights (for example, who can use data about you).

Sample Activities Within the Data Life Cycle

Stage 1: Create, Find, & Collect Data	
Data aggregation	This is when you collect data from many different sources.
Data discovery	Knowing how and where to find data.
Data identification	Understanding what counts as data.
Data interpretation	Making sense of data.
Data evaluation	Checking to see if the data is reliable.

Stage 2: Organize & Describe Data	
Metadata classification	Metadata is information about data. It is used to categorize and describe data so that it can be found.

Stage 3: Clean up, Package, & Store Data	
Data preservation	Getting data ready for long-term use.

Stage 4: Make Sense of Data & Use It!	
Data re-use	Re-using existing data for a new purpose.
Data translation	Translating data into a story or visual image so that people can understand it.
Data visualization	Making charts, diagrams, and other imagery of data that help to tell the story.