

Resources for computational research

- [Math and science](#)
- [\(Data\) Visualisation](#)

Math and science

Brilliant.org

[Brilliant](#) | [Learn interactively](#)

Brilliant offers guided problem-solving based courses in math, science, and engineering, based on [National Science Foundation](#) research supporting active learning.^[15]

Additionally, Brilliant publishes challenging problems in math and science each week from problems written by members of their community.^[3] Brilliant also maintains an interactive, community-written math and science [wiki](#). In 2016, *The Atlantic* reported that “some of the most recognizable companies in the tech industry regularly prospect” on Brilliant.^[13]

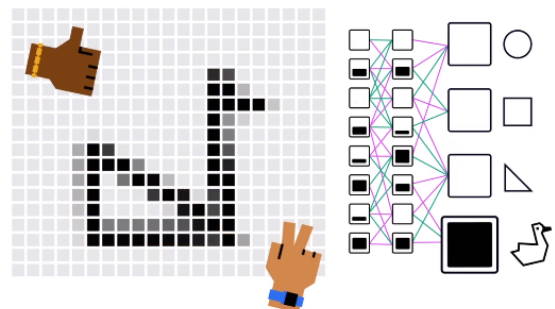


Log in

Master concepts in **math** **and computer science** in 15 minutes a day

Interactive problem solving is a more effective (and more fun!) way to learn.

Get started



Math



Data Analysis



Computer Science



Programming



Science & Engineering

CEDRR has free access through "For Classrooms" programme. Contact Tomáš Hampejs for this access.

(Data) Visualisation

Data storytelling through visualization is crucial because it transforms complex things which are inaccessible or hardly accessible into something we can more easily grasp - something we can **see**.

By combining data with visuals, such as graphs, charts, and maps, we can 1) either effectively **explore** or 2) effectively **communicate** patterns, trends, and outliers that might otherwise go unnoticed. This approach not only makes data more accessible and understandable to a wider audience but also enhances decision-making by providing a compelling narrative that connects the data to real-world implications.

Inspirational videos

The best stats you've ever seen , Hans Rosling, https://www.youtube.com/watch?v=usdJgEwMinM	Hans Rosling is, for many, a founder of "data storytelling" ... Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats - BBC, (https://www.youtube.com/watch?v=jbkSRLYSojo)
The beauty of data visualization (David McCandless) , 2012, https://www.youtube.com/watch?v=5Zg-C8AAIGg	Data journalism, " Dataset should change your mindset "
Turning Bad Charts into Compelling Data Stories , Dominic Bohan TEDxYouth@Singapore , 2019, https://www.youtube.com/watch?v=edAf1jx1wh8	There are better and worse ways how to visualize ...
The Evolution Of Data Visualization Dustin Cabral TEDxBryantU, 2023, https://www.youtube.com/watch?v=sOJet45-kcY	Everyday life can be transformed into data and visuals ...
Data Design: a language that widens our world view , Valentina D'Efilippo , 2021, https://www.ted.com/talks/valentina_d_efilippo_data_design_un_linguaggio_per_ampliare_la_nostra_visione_del_mondo	TED Talk, Introducing the concept of " design " into the thing

Lectures

Basic principles of data visualization in academic practice (Tomáš Marek, KISK), 2021,
<https://medial.phil.muni.cz/Play/12136>

- Visual representations of data are powerful tools of scholarly communication. However, extensive research shows that they are not always used with sufficient functionality. This lecture and follow-up workshop will focus on the basic principles and rules of data visualization and its application. The lesson will focus on data visualization foundations and concepts, such as data-ink ratio, chartjunk or memorability. We will dive shortly into relevant cognitive science topics, such as pre-attentive processing or memory.

Effective Data Visualisation - with Valentina D'Efilippo, 2021,
<https://www.youtube.com/watch?v=MIZXqC1-VLc>

- Effective data visualisation comes in many shapes and sizes, but how do you move away from a standard bar chart?
Valentina D'Efilippo is a designer, illustrator, and creative director based in London.
- Longer but nice view from a "**data designer**". Very broad and complex introduction.
She is doing online master classes in the domain, <https://www.valentinadefilippo.co.uk/>

Harvard i-lab | Data Visualization for Non-Programmers, 2015,
<https://www.youtube.com/watch?v=-xS7QJhVbcM>

- Are you an entrepreneur looking to share data with your investors, stakeholders, or consumers - but you don't know where to start? Visual presentation of information is a necessary skill in modern communication, even if you don't know the first thing about Photoshop. Join William Beutler and Jenny Karn, of digital agency Beutler Ink, to learn how you can use data to share powerful visual stories with any audience.
- You will learn:
 - The do's and don'ts of data visualization
 - The importance of analysis alongside the numbers
 - Choosing the right presentation for your data
 - Tools that can help with - or without - a budget

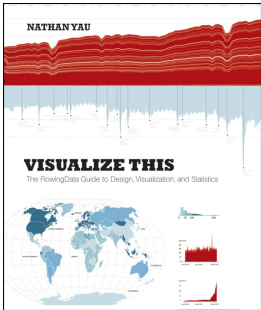
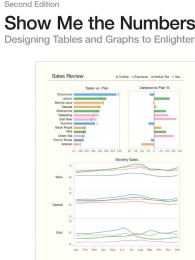
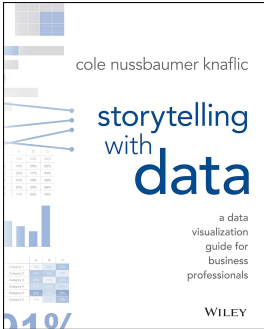
Lecture 23: Visualizing Data, MIT OpenCourseWare,
<https://www.youtube.com/watch?v=C5JjMP8m-4E>

- MIT 14.310x **Data Analysis for Social Scientists**, Spring 2023 Instructor: Esther DuFlo
- Complete course, <https://ocw.mit.edu/courses/14-310x-data-analysis-for-social-scientists-spring-2023/>

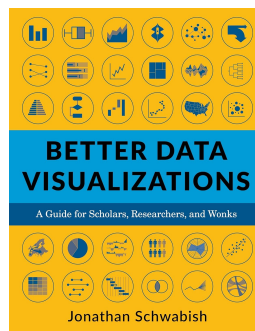
Examples from the Internet

- **Poppy field**, (D'Effilipi), infographics about the human life costs of Wars,
<https://poppyfield.org/>
- **Meetomentum: Trending seeds**, (D'Effilipi), Analysis of me too tweet trends,
<http://metoomentum.com/>
- **DISSINET Data Snapshots**, a social-history project about medieval heresy,
<https://dissinet.cz/data-snapshots>

Books

<p>Yau, N. (2024) <i>Visualize This: the flowingdata guide to design, visualization, and statistics second edition</i>. 2nd edn. Indianapolis: John Wiley and Sons.</p> <p>https://flowingdata.com/visualize-this/</p>	
<p>Few, S. (2012) <i>Show Me the Numbers: Designing Tables and Graphs to Enlighten</i>. Second edition. Burlingame, Calif: Analytics Press.</p>	 <p>Stephen Few</p>
<p>Knafllic, C.N. (2015) <i>Storytelling with Data: A Data Visualization Guide for Business Professionals</i>. 1st edition. Hoboken, New Jersey: Wiley.</p>	

Schwabish, J. (2021) *Better Data Visualizations: A Guide for Scholars, Researchers, and Wonks*. New York: Columbia University Press.



Other resources

Online services

- <https://www.datawrapper.de/> "Enrich your stories with charts, maps, and tables. "
 - <https://academy.datawrapper.de/article/245-how-to-create-your-first-datawrapper-chart> , Tutorial

Datová žurnalistika Českého Rozhlasu, <https://www.irozhlas.cz/zpravy-tag/datova-zurnalistika>

- Kristýna Pšorn Zakopčanová, <https://www.mediaguru.cz/clanky/2025/05/minimalismus-pomaha-budovat-dojem-duveryhodnosti/>
 - V současné době neuvěřitelného množství dat roste důležitost jejich správné interpretace a vizualizace. Právě proto je zde Information Designer neboli člověk, který data překládá do srozumitelného jazyka vizuálních sdělení. Jedním z nich je i Kristína Pšorn Zákopčanová, jež pracuje pro think tank **Fakta o klimatu, Český rozhlas nebo PAQ Research**.
 - „Vzít data a dát je do grafu je snadné, ale často nás překvapí, že čtenáři nevidí to, co jsme zamýšleli,“ říká Kristína Pšorn Zákopčanová s tím, že vědět, co chceme říct, je klíčem ke srozumitelnosti. „I když to zní banálně, je to vlastně ta největší výzva. Například autoři často chtějí říct vše, což pak způsobí, že se sdělení ztrácí,“ dodává.

Datacamp

- [Introduction to Data Literacy - DataCamp Learn](#)
- [Understanding Data Visualization - DataCamp Learn](#)