SciencesPo

Digital Culture

Algorithms, big data and artificial intelligence

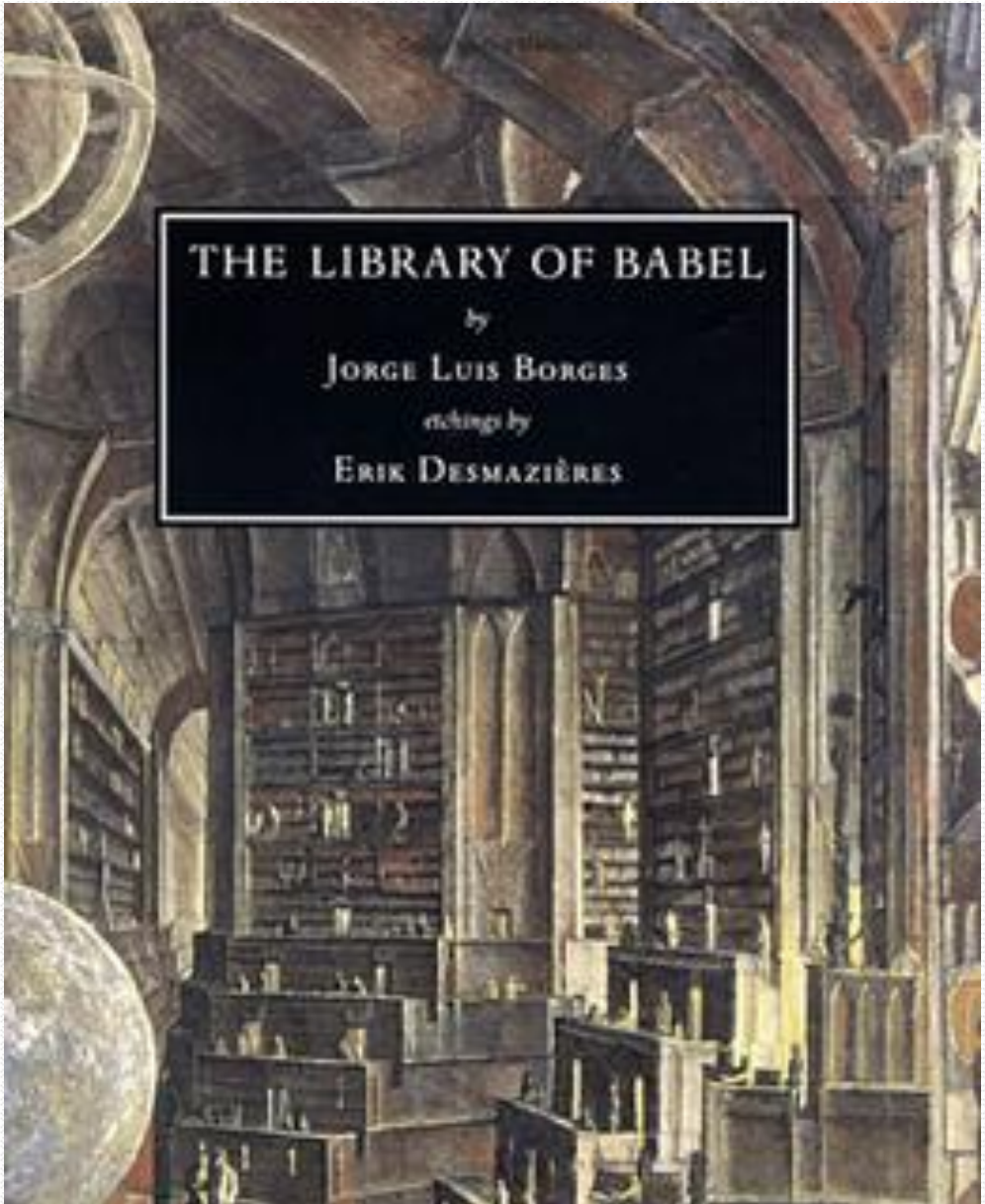
Big Data and Artificial Intelligence

Big Data

Question

What does “big data” refer to?

The Library of Babel



The Library of Babel

Browse

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Random

About

Reference Hex

Image Archives

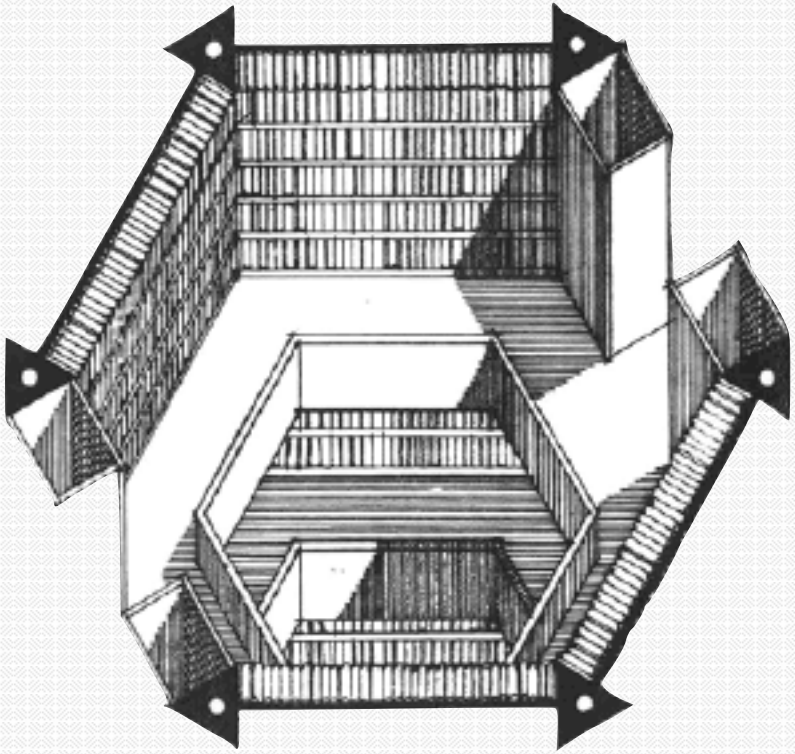
Forum

Theory

By this art you may contemplate the variation of the 23 letters

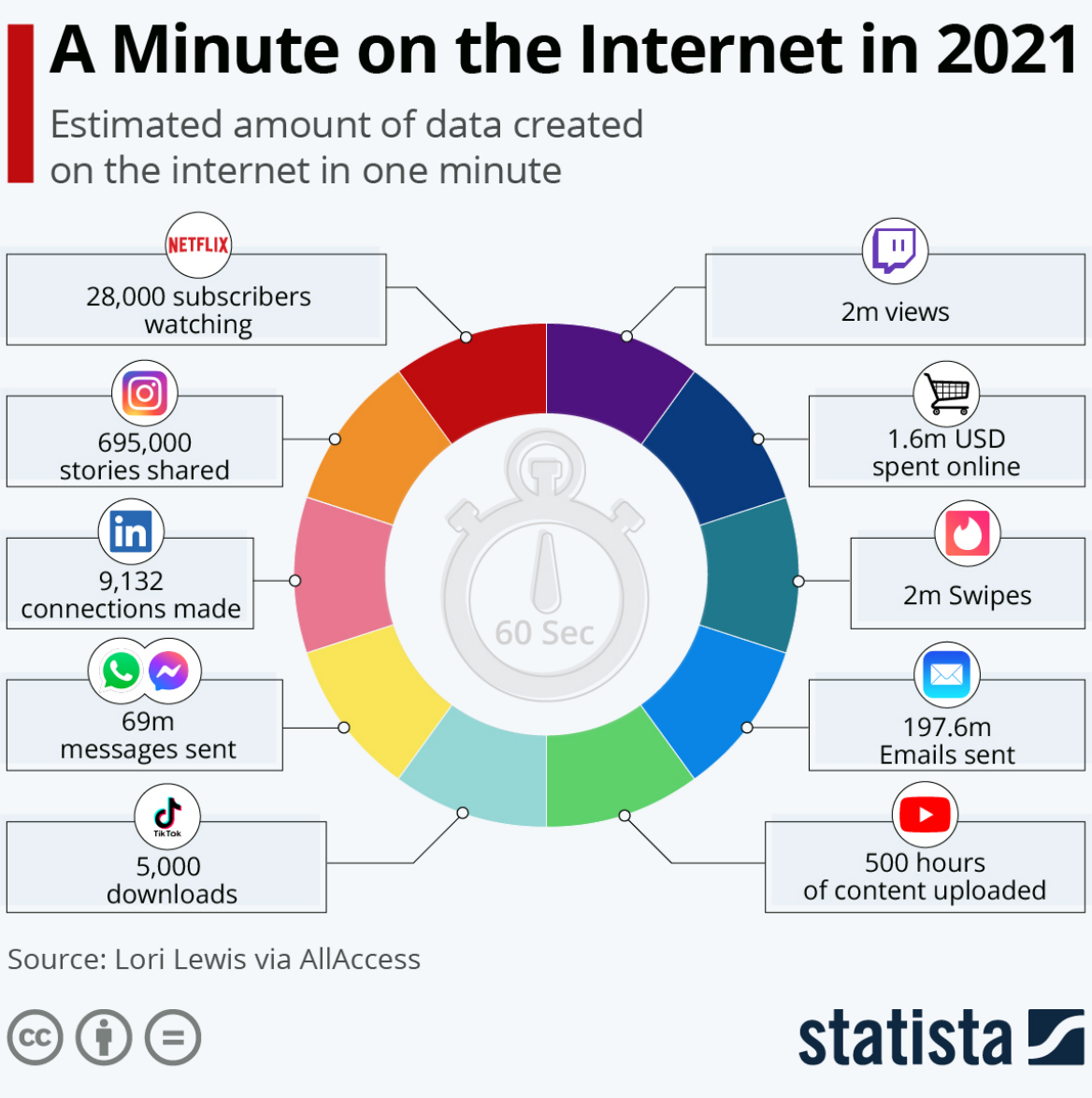
Source: https://libraryofbabel.info

The Library of Babel



Source: https://libraryofbabel.info

A Minute on the Internet in 2021



Algorithms

Definition of an Algorithm

Algorithm — *noun*

A collection of ordered steps that solve a mathematical problem

A precise step-by-step plan for a computational procedure that possibly begins with an input value and yields an output value in a finite number of steps

Moral Panic on Algorithms

Question

How do algorithms organise “big data”?

Artificial Intelligence

Question

What does artificial intelligence refer to?

AI & ML

Artificial Intelligence
≠
Machine Learning

Mathematical father of computing

Invention of the Turing test

1937

Alan Turing

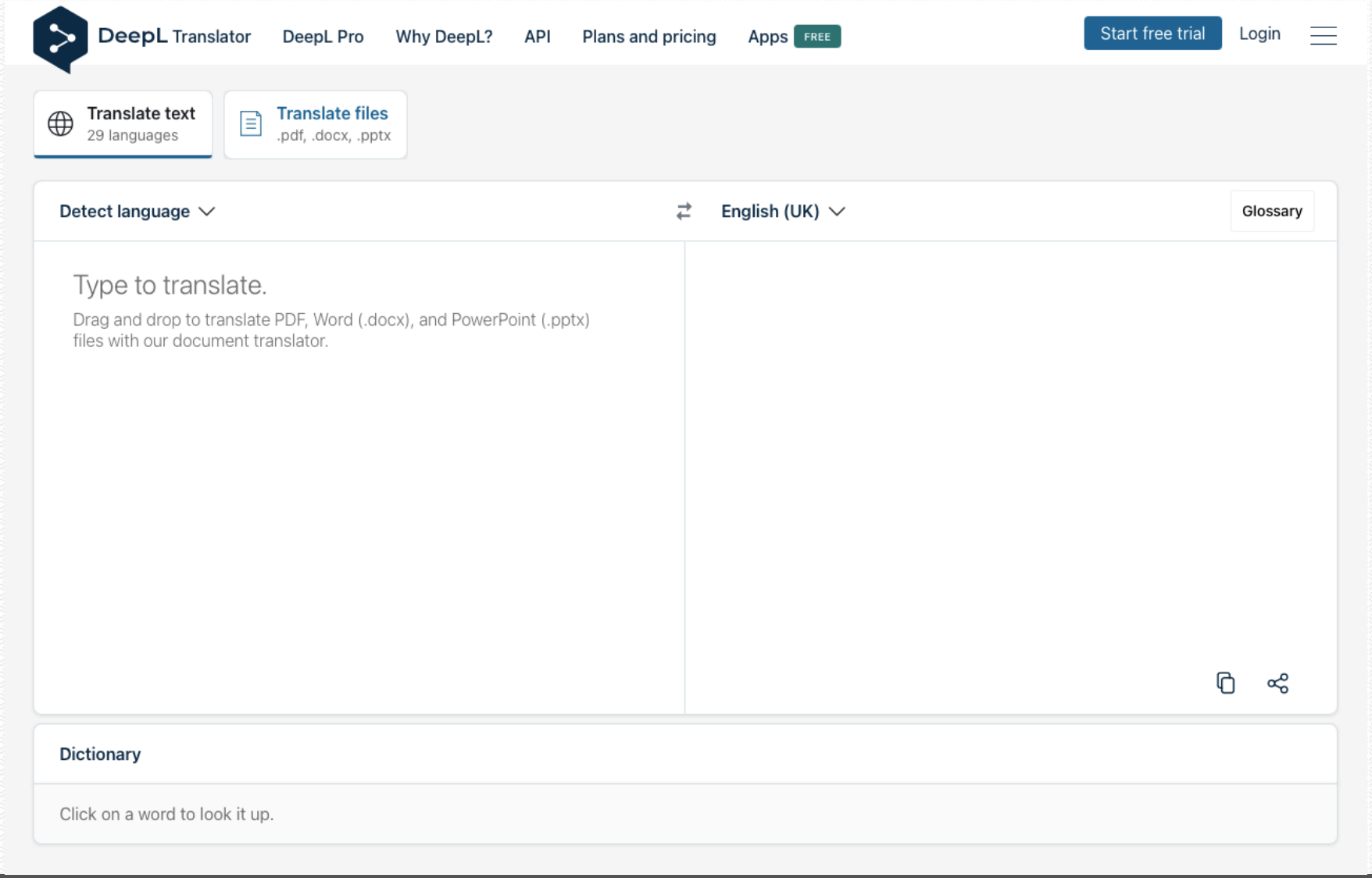
Brief Historical Overview of AI

Artificial Intelligence has been seen as:

- intelligent computers *i.e.* automatons that speak, reason and come to life as described by John MacCarthy
- some prosthesis that enhances the intelligence of humans *i.e.* computers that 'augment' us as per Doug Engelbart's vision

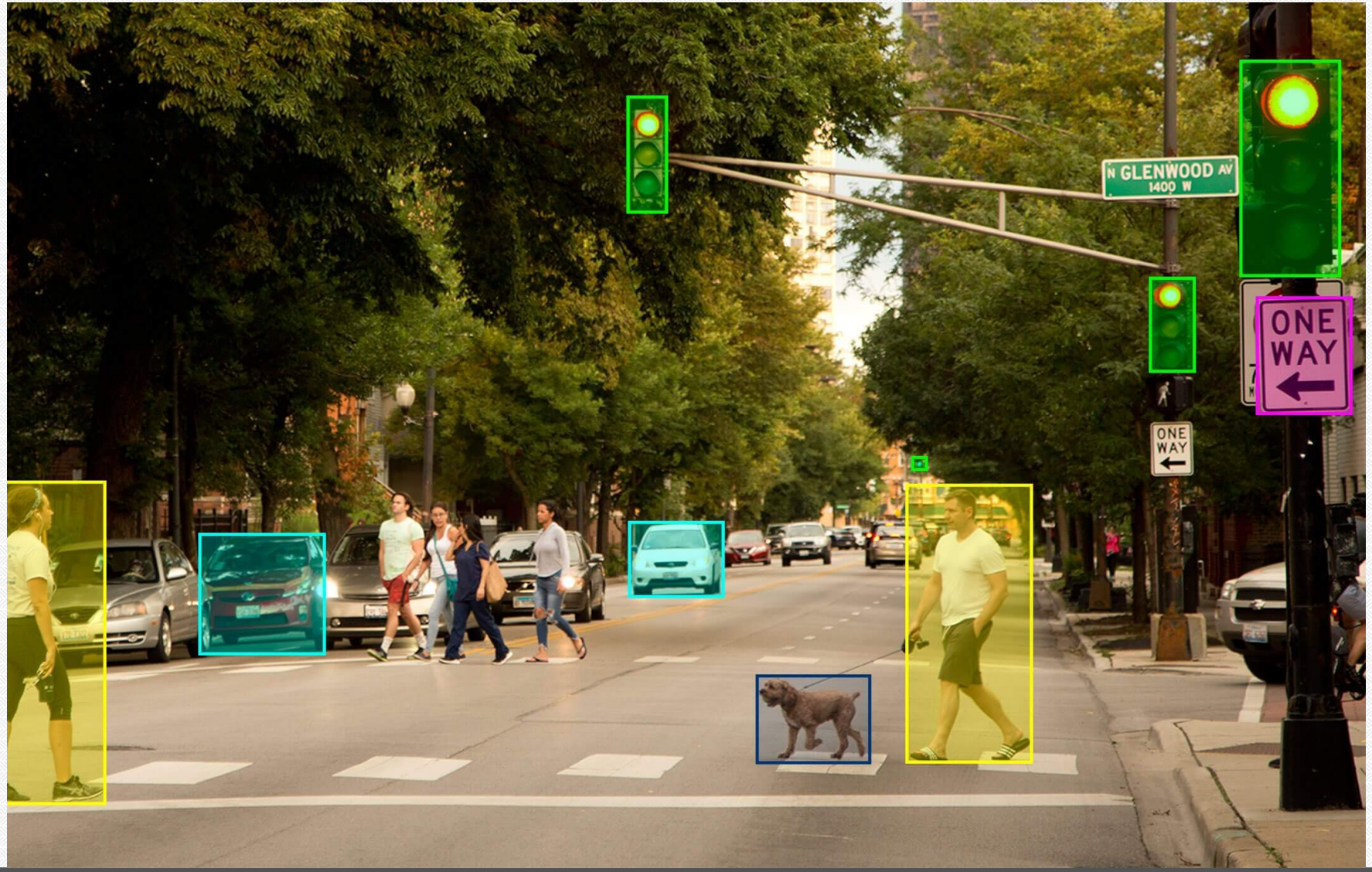
Examples of Artificial Intelligence

DeepL



Source: https://www.deepl.com/translator

Tesla

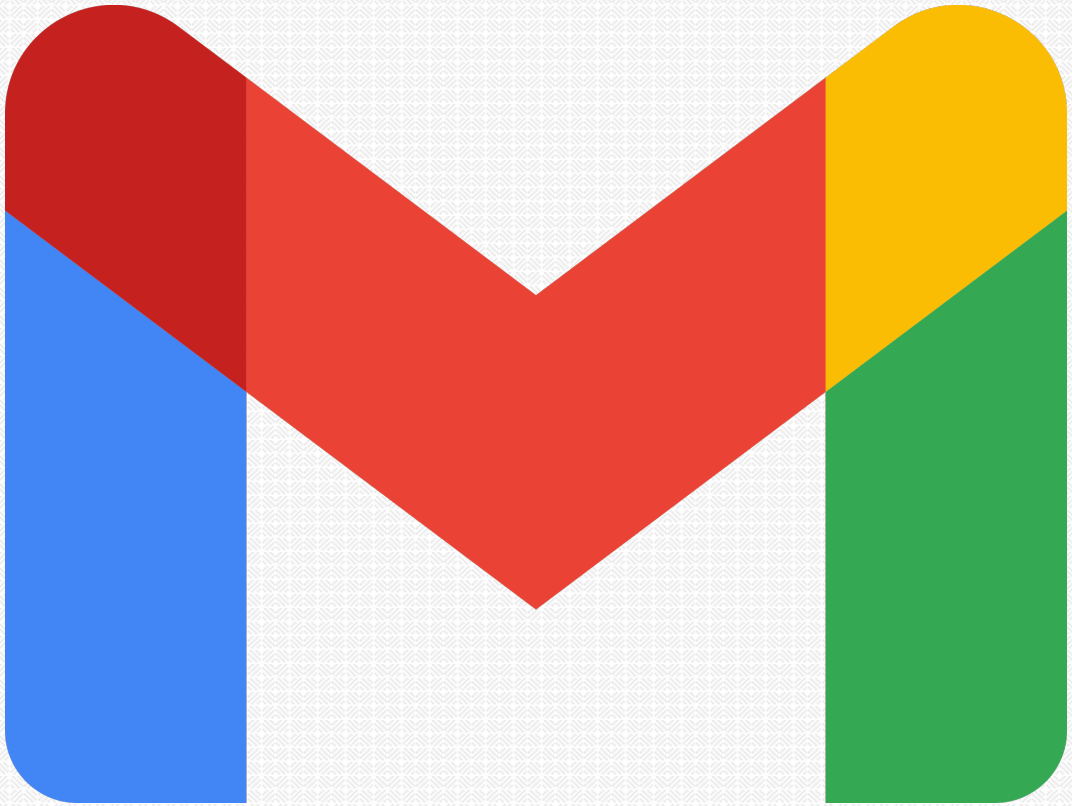


Source: https://medium.com

Auto-Enhance Features

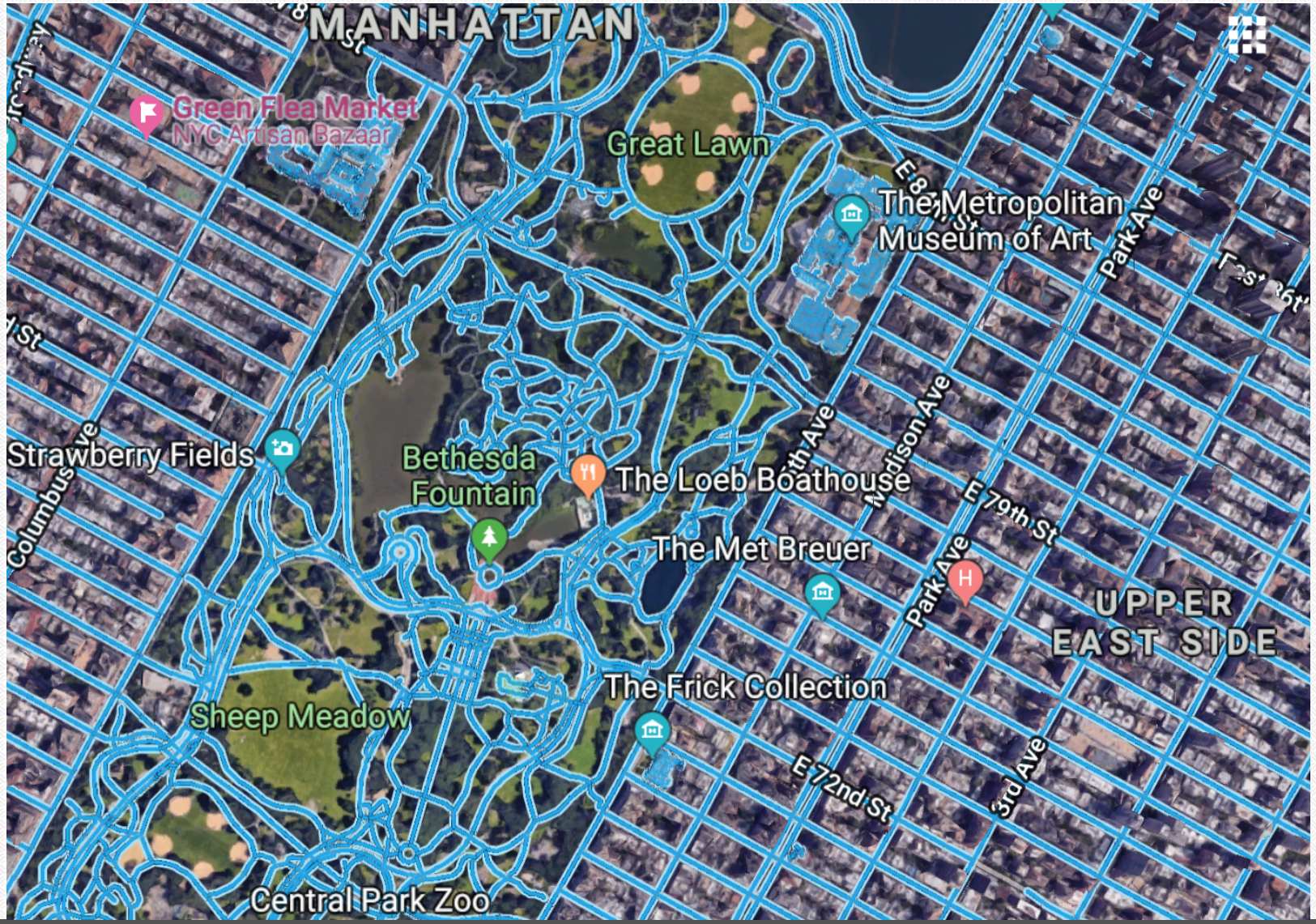
Source: https://adobe.com

Spam Filters



Source: *https://gmail.com*

Google Maps



Source: https://mit.edu

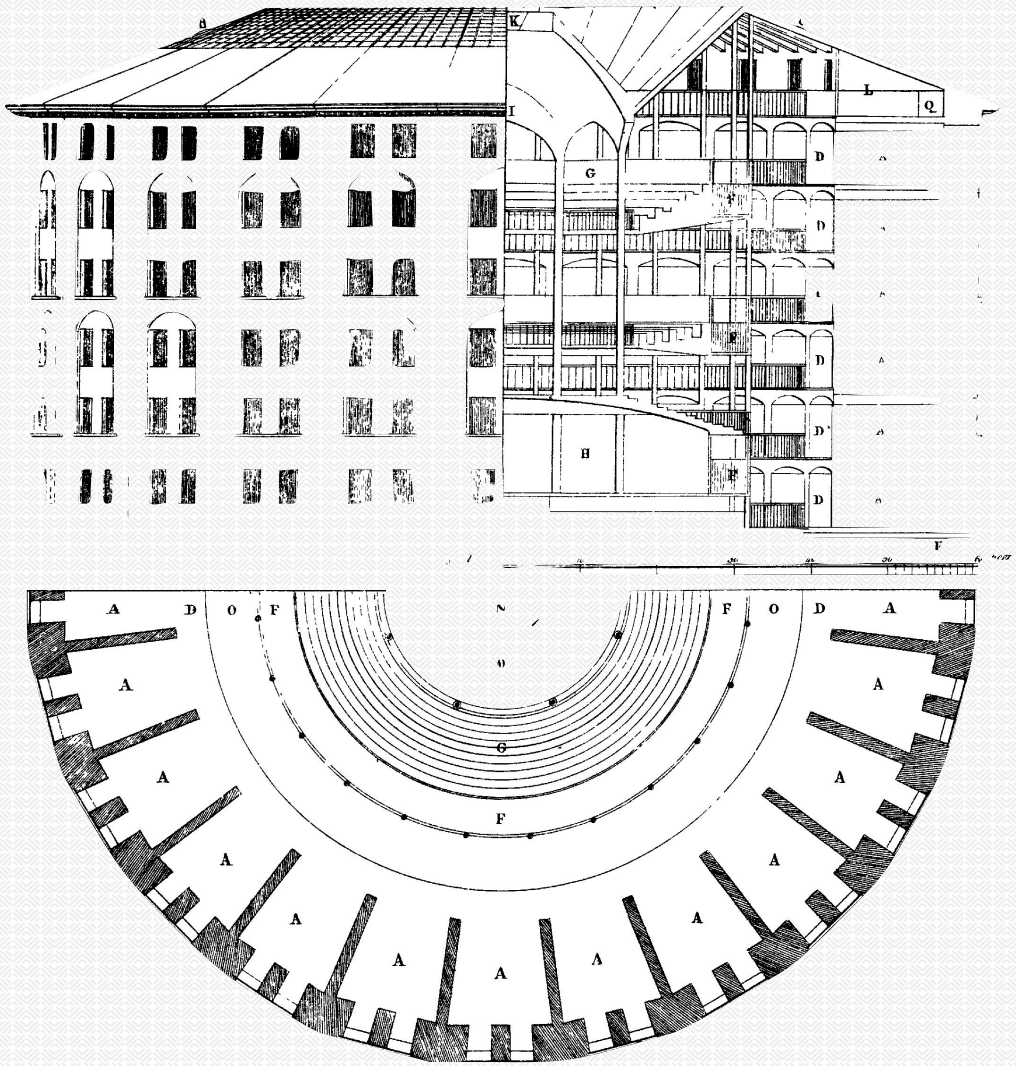
Social Networks' Recommendation Systems

Source: *https://commons.wikimedia.com*

Artificial Intelligence in Practice

Digital Surveillance

Jeremy Bentham's Panopticon



Source: https://wikipedia.com

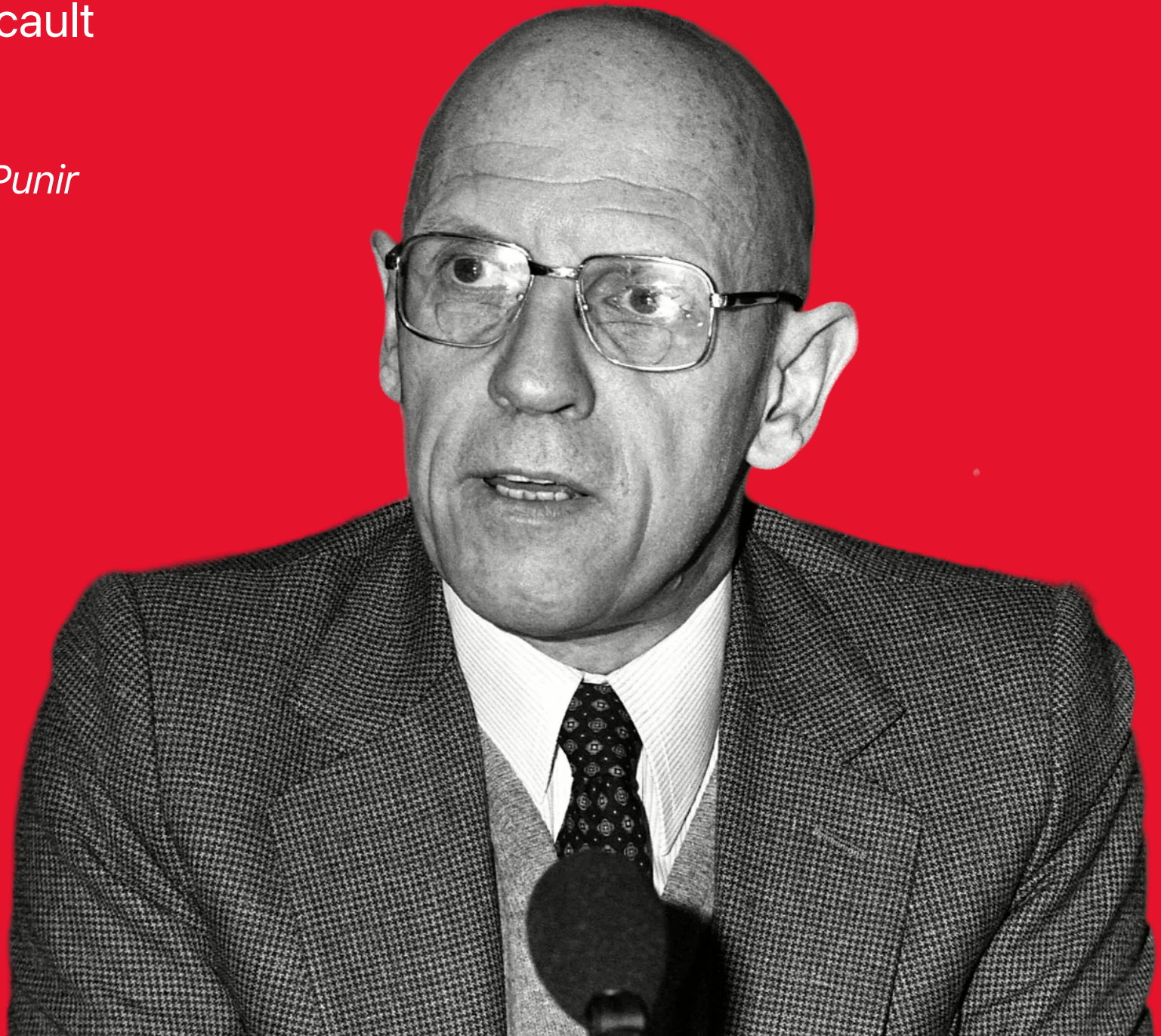
Jeremy Bentham's Panopticon

Source: https://brown.edu

Michel Foucault

Philosopher

Surveiller et Punir



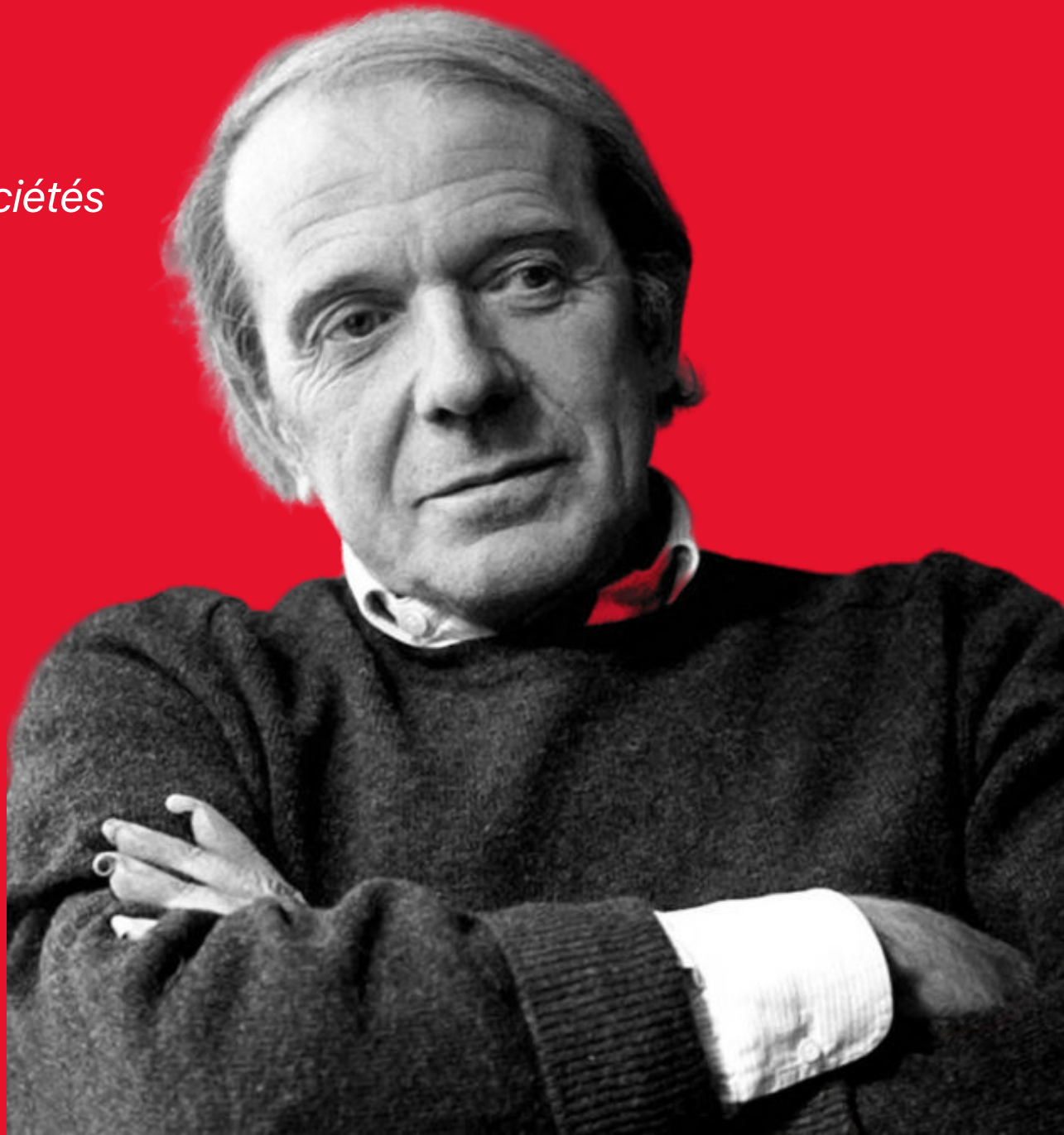
1975

Gilles Deleuze

Philosopher

Post-scriptum sur les sociétés de contrôle

1987



NSA Files and Edward Snowden

theguardian

NSA FILES: *DECODED*

What the revelations mean for you.

Source: https://www.theguardian.com/

A Trade-Off in Digital Surveillance

Individuals are often placed in situations where they have to make an individual trade-off between:

- the right to privacy
- the security of citizens in the name of which state surveillance is exercised

Work on Digital Explorations

Work on Digital Explorations

Homework

- read about GDPR:
  - https://gdpr.eu/what-is-gdpr/
- read about the UK University admissions algorithm during the COVID-19 pandemic:
  - https://www.washingtonpost.com/world/europe/the-uk-used-an-algorithm-to-estimate-exam-results-the-calculations-favored-elites/2020/08/17/2b116d48-e091-11ea-82d8-5e55d47e90ca_story.html
- start preparing a ~10min presentation on your final exploration

To go further

The Cambridge Analytica Files

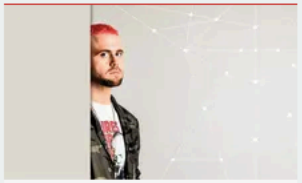
A year-long investigation into Facebook, data, and influencing elections in the digital age

Key stories

Hide

Revealed / 50 million Facebook profiles harvested for Cambridge Analytica in major data breach

484



'I made Steve Bannon's psychological warfare tool': meet the data war whistleblower

Christopher Wylie goes on the record to discuss his role in hijacking the profiles of millions of Facebook users in order to target the US electorate

Revealed: Brexit insider claims Vote Leave team may have breached spending limits

Whistleblower alleges that electoral spending rules could have been manipulated over controversial donation and that Vote Leave 'tried to delete key evidence'

The Brexit whistleblower / 'Did Vote Leave use me? Was I naive?'

Revealed: the ties that bound Vote Leave's data firm to controversial Cambridge Analytica

Facebook's week of shame / The Cambridge Analytica fallout

"Politicians can't control the digital giants with rules drawn up for the analogue era
Andrew Rawnsley

266

"Facebook told me it would act swiftly on data misuse – in 2015
Harry Davies

Raid / Investigators spend seven hours at Cambridge Analytica HQ

Speaking out / Former Cambridge Analytica exec says she wants lies to stop

"The Cambridge Analytica saga is a scandal of Facebook's own making
John Harris

1,109

All stories

+ More Key stories

Thank you!