THRIVING IN A BIG DATA WORLD

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AGENDA

- → What is Big Data?
- → The Rise of Big Data
- → Big Data in Action: The Good
- → Big Data in Action: The Bad
- → Final Thoughts

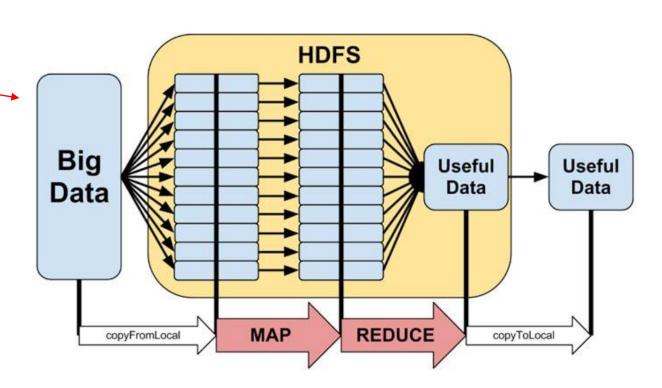
WHAT IS BIG DATA?

Thriving in a Big Data World: How AI, automation, and robots are changing how humans work, play, and live.

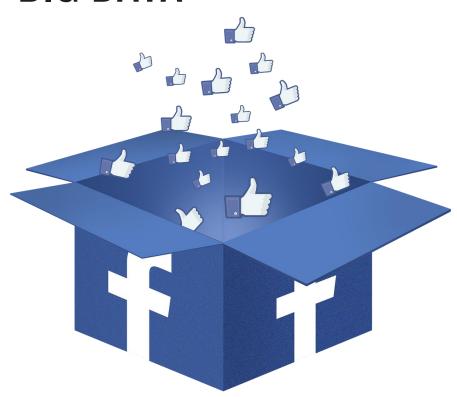
THE PROMISE OF BIG DATA

This is a HADOOP

an open-source software framework for storing data and running applications on clusters of commodity hardware.



THE RISE OF BIG DATA



DIMENSIONS:

Combining different types of data from multiple sources for new insights.



AUTOMATIC:

Data collected by default. Your web surfing habits, location, purchase history, and more.



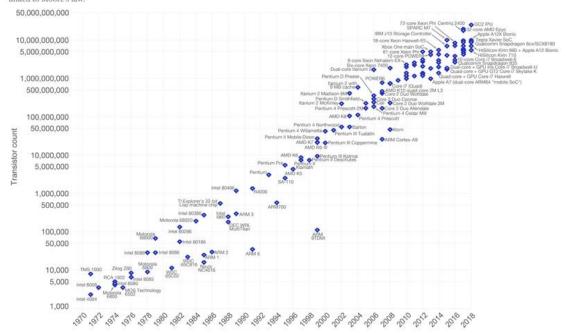
TIME:

Data is collected and analyzed in real time. Then it can be used to predict future events and actions.

Moore's Law - The number of transistors on integrated circuit chips (1971-2018)



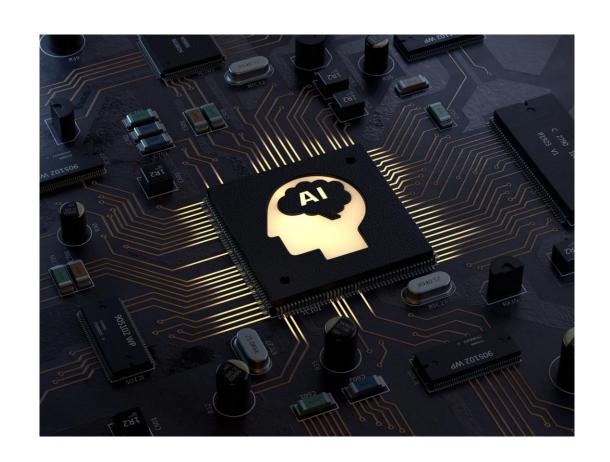
Moore's law describes the empirical regularity that the number of transistors on integrated circuits doubles approximately every two years. This advancement is important as other aspects of technological progress – such as processing speed or the price of electronic products – are linked to Moore's law.



Data source: Wikipedia (https://en.wikipedia.org/wiki/Transistor_count)
The data visualization is available at OurWorldinData.org. There you find more visualizations and research on this topic.

ARTIFICIAL INTELLIGENCE:

Algorithms
designed to spot
patterns by using
machine learning
and other feedback
loops.



NETFLIX:
AI, Data Science,
and Machine
Learning



23andME

10 million customers more than 8 Million have
opted to allow the
company to mine their
genetic data. The company
is actively mining this
large dataset to find
correlations.



ENIGMA
Companies like
Enigma are helping
NGOs use big data
to fight human
trafficking.

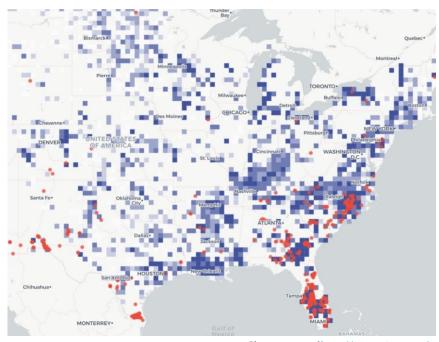


Photo courtesy of https://www.enigma.com/

BLACK BOXES

How do the algorithms work? They won't tell us.

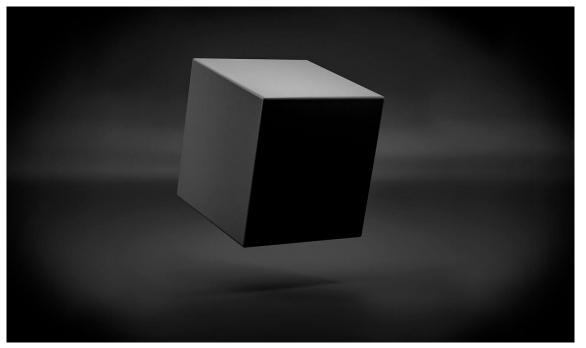


Photo courtesy of https://singularityhub.com/2019/04/17/in-defense-of-black-box-ai/

CONSUMER PRIVACY

Who owns the data? Hint: not you.



 $Photo \ courtesy \ of \ \underline{https://martechseries.com/analytics/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/privacy-and-regulations/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-roundtable-part-i/data-management-platforms/gdpr-$

BIG DATA CAN BE WRONG

Risk Assessment Tools have sent thousands of Americans to jail—and it may have been a mistake.

Ref: https://epic.org/algorithmic-tra

The New York Times

In Wisconsin, a Backlash Against Using Data to Foretell Defendants' Futures



The Wisconsin State Capitol. Wisconsin is one of several states to use algorithms in the sentencing process. One defendant, Eric L. Loomis, has appealed his sentence. Scott Bauer/Associated Press

Photo courtesy of NY Times

THE CHINA **PROBLEM Social Credit** Scores could take over the world.

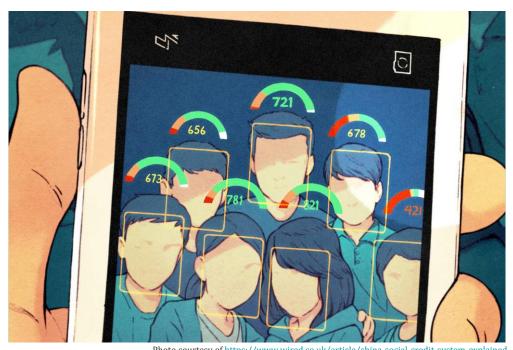


Photo courtesy of https://www.wired.co.uk/article/china-social-credit-system-explained

CONCLUSIONS

CONCLUSIONS: BUSINESS OPPORTUNITIES

CUSTOMIZED PRODUCTS
Delivered more
efficiently, to ever-larger
audiences



Photo courtesy of https://www.datacenterdynamics.com/opinions/ai-and-automation-create-opportunities-and-dangers/

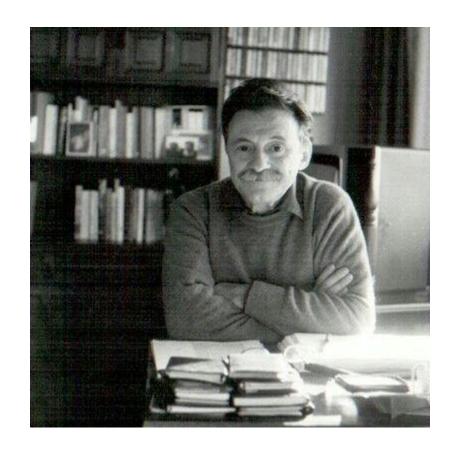
CONCLUSIONS: WE ARE UNPREPARED

WE NEED TO UNDERSTAND **HOW BIG DATA WORKS** And think about the moral and ethical consequences of using these new technologies.



Photo courtesy of https://techcrunch.com/2017/01/29/why-the-promise-of-big-data-hasnt-delivered-yet/

DISCUSSION



Justo cuando pensamos que tenemos todas las respuestas, todas las preguntas cambian.

THANK YOU! STAY IN TOUCH



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