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Big Data

Chapter 1: Now

Google's predictions on H1N1



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- On 2009 Google predicted the spread of H1N1 before CDC.
- They used search terms as input data.
- Matching search terms and official spread records from 2007.

Farecast



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- In 2003 Oren Etzioni developed a system to anticipate prices in flight tickets.
- Factors affecting tickets prices are only known by airlines.
- Used data of previous prices, sales, and time.
- Bought by Microsoft for 110 mill.

Technology & Data



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- Technology is not the only element in big data.
- A new approach to use data is the key element.
- Data can be used for many purposes.
- Data is raw material of business.
- Although technology has seen great advances, and information has multiplied, human perception of data has remained the same

One definition of Big Data



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“Big data refers to things one can do at a large scale, that cannot be done at a smaller one”.



The revolution of data

The revolution is in the use of data, not in the machines.

- Astronomy.
- Human genome.
- Stock market.



Growth of Information

- Google processes 24 petabytes per day.
- Facebook receives 10M of pictures per hour and 3 B comments a day.
- Youtube users upload one hour of video every second.
- 400M tweets per day.
- Banking, finance, healthcare tell the same story.

Uses of big data

- Big data is about predictions
- Machine learning.
- Inferring probabilities.



3 major shifts in human thinking

- More, or all of it.
- Inexactitude.
- “*What*” is more important than “*Why*”.



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