Ethics of Big Data

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Big Data

- Definition of Big Data evolves with the development of technology

- Big Data is data big enough to raise practical rather than merely theoretical concerns about ethics

- We've never been there before; massive amounts of data and capability to analyze it with an unknown impact!

- Can't analyze without impacting

Source: Davis & Patterson (2012): Ethics of Big Data

Big Data and Robotics

- Internet of Things or Industrial Internet as the foundation of all knowledge, instead of AI within a robot

- Big Data clusters, analytics and APIs are the brain and nervous system for the robots

- A robot turns digital knowledge into physical actions

- Not just watching and knowing, but acting…

Source: http://blogs.sap.com/innovation/innovation/robotics-future-internet-things-0555335#.UpGqeD1W2Ro.twitter

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You are a data source

- How much data you produce every day, how much data "things" produce every day that relate to you.

- Unstructured data and seemingly irrelevant pieces of information

- "Data can be either useful or perfectly anonymous, but never both." ~ Paul Ohm

- Big data itself, like all technology, is ethically neutral. The use of big data, however, is not.

Source: Davis & Patterson (2012): Ethics of Big Data

Do you feel it, the Big Data?

- Can you tell when your behaviour is changed by someone using Big Data?

- Imagine how many organizations the trail of your data exhaust touches in a single day (Case Walmart)

- Even a simplest transaction generates data that is transferred, processed or stored by several parties

- Should you be aware of this?

- Should you allow being impacted by this?

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Giving control to Big Data?

- Targeted advertising, suggestion, adaptation, persuasion – acceptable when done by a human?

- Big Data processes can predict your behaviour accurately

- Risk of mislabeling, discrimination

- "Consumer of the future will be increasingly mediated and companies increasingly empowered to capitalize that mediation"

Source: Consumers, Big Data and Online Tracking in the Retail Industry: A Case Study of Walmart

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Doing the necessary?

- Life saving decisions out of control for human reflexes or senses

- Predictive analysis, up to the level of Minority Report

- Our life is depending on robots already today, how much more we are willing to allow

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Framework of Big Data ethics

- Identity
  - Online <> Offline
- Privacy
  - Access control
  - Transparency
- Ownership
  - "IPR"
  - Transfer of ownership
  - Opt-out
- Reputation
  - Trustworthiness
  - Ways to use data
  - How we are perceived and judged by using data – be fair

Source: Consumers, Big Data and Online Tracking in the Retail Industry: A Case Study of Walmart
Source: Davis & Patterson (2012): Ethics of Big Data.
Source: http://venturebeat.com/2013/11/18/the-ethics-of-big-data-a-council-forms-to-help-researchers-avoid-pratfalls/

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To share or not to share?

- Someone drawing interesting conclusions about you is ethically ok for most of us, for our own benefit

- How about someone sharing these conclusions?

- No? Then what should a pharmaceutical company do? Not to share might cost someone's life

- "Knowledge, once gained, cannot be undone. Even deciding not to do anything with the knowledge is a decision with consequences already."

Source: http://www.ft.com/cms/s/0/105e30a4-2549-11e3-b349-00144feab7de.html#ixzz2lN7ZWFZx

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Who sets the Code of Conduct

- Ethical debate: what is 'appropriate' and what is 'not appropriate' for your organisation and for others

- This is normative and subjective in nature

- Ethical debate results in values, then actions

- How you use Big Data in your organization or in your services should demonstrate your values (Case Walmart)
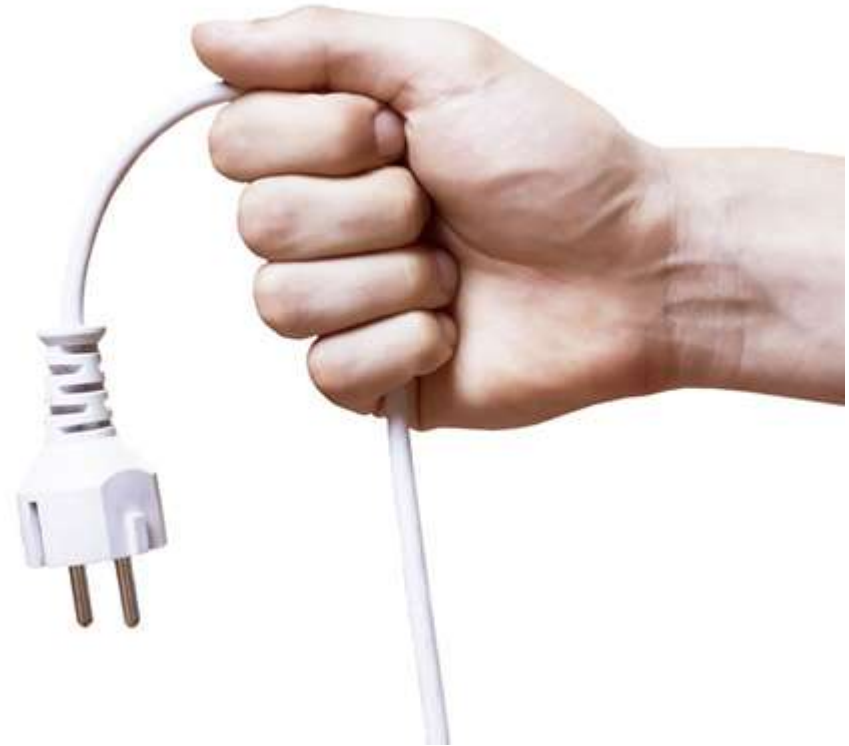
- What are robots' values?

Source: Consumers, Big Data and Online Tracking in the Retail Industry: A Case Study of Walmart
Source: Davis & Patterson (2012): Ethics of Big Data

Values in action

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The Notorious EULA

- "Our robot has been designed and programmed to save your life. To do this we analyze everything to create model of you. However, if you die, we are not responsible."

- It takes a month in a year to read through all the EULA's of the products and services we buy

- With EULA, the biggest ethical risk is the neglectful user… next, next, I agree

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Public

The Evil

The Good

Images: villains.wikia.com, it.wikipedia.com, souloftheplot.wordpress.com, fanpop.com

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Yes, we need to talk about it…

- Private sector (global) supergiants will use their Big Data capabilities no matter what

- Public sector data warehouses becoming increasingly open for access

- User generated data is already out of hands

- In 2008 there were more "things" using Internet than there were "humans"

- We are not anymore aware of how our daily life is impacted by Big Data processes
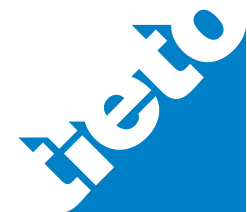
- Robots will make all this physical

Skynet

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Image: yle.fi

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