

Week 4 A03

Reading Discussion

- **Data's Day of Reckoning**

By Mike Loukides, Hilary Mason, and DJ Patil

Other fields' days of reckoning:

- 1) In medicine: Tuskegee Syphilis Study, Henrietta Lacks, human experiments performed during World War II by Nazis.
- 2) In physics: atomic bomb
- 3) In chemistry: chemical and biological weapons
- 4) In engineering: shoddy work has an impact on people's lives

Data's day of reckoning

Benefit:

- Maps and navigation
- Autonomous vehicles
- Searching information on google

Harm:

- Violation of individual privacy (price discrimination?)
- The case of Henrietta Lacks (whose cells were used for cancer research without her permission and compensation)

Ethics and security training

- Ethics and security must be at the heart of the curriculum at school
- Ethics and security must be integrated into every course at colleges, universities, online courses, and programming boot camps.
- Ethics and security is a lifelong study.

Developing guiding principles

- Checklists can help data professionals to not forget ethical issues, even when they are under pressure to deliver.
- Checklists are the solution
 - Have we listed how this technology can be attacked or abused?
 - Have we tested our training data to ensure it is fair and representative?
 - Have we studied and understood possible sources of bias in our data?
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Building ethics into a data-driven culture

- How?
 - Ethics needs to be part of an organization's/corporate culture.
 - Data-driven organizations need a similar model that allows people to escalate issues without the fear of reprisal.
 - An ethical challenge should be part of the hiring process.
 - Product reviews must ask questions about the product's impact.
 - Teams must reflect diversity of thought, experiences, race, and background.
 - Corporations must make their own principles clear.

Regulation

- Imposing ethical standards by law and regulation:
 - The Common Rule
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- Regulatory authority enforces the ethical standards:
 - U.S. Federal Trade Commission (FTC)
 - Nuclear Regulatory Commission (NRC)
 - Consumer Finance Protection Bureau (CFPB)
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