Data Ethics: Understanding Big Data, Algorithmic Bias, and Research Ethics

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SOCL 2321 Research Methods
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Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Discussion: China's Social Credit System

- What is China's Social Credit system? How does it work?
- In what ways might America have similar or different technological infrastructures?

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Workshop Agenda

- Objectives
- Introduce ‘Big Data’ Concepts
- Discuss data, privacy, and data categorization
- Discuss ethical implications of big data and more generally digital research
- Activity: Adopt or Not?

Slides, handouts, and data available at **https://bit.ly/2H48Yc1**

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Workshop Goals

- Understand the ways data is being used in society as well as how algorithms impact and shape our daily lives
- Understand the ways in which technology reflects cultural, social, and political biases.
- Explore the ways in which privacy and security are being reshaped and redefined through the use of big data, algorithms, and policy
- Explore the ways in which these questions and methods are influencing how humanists and social scientists do research and practice their craft

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What is ‘Big Data’?

Big data has been called the ‘new oil’ by some.

Shoshana Zuboff argues that we now live in an era of ‘surveillance capitalism.’

The four components of big data are: **volume**, **variety**, **velocity** and **veracity**

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Why should we care?

- Big data is characterized by its **scale**
- Big data **sources** include: digitized records, social media/internet activity, or sensors from the physical environment.
- Big data is often **privately owned**
  - Example: an insurance company purchasing social media activity from facebook in order to make specific insurance sales decisions.

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Facebook Preferences

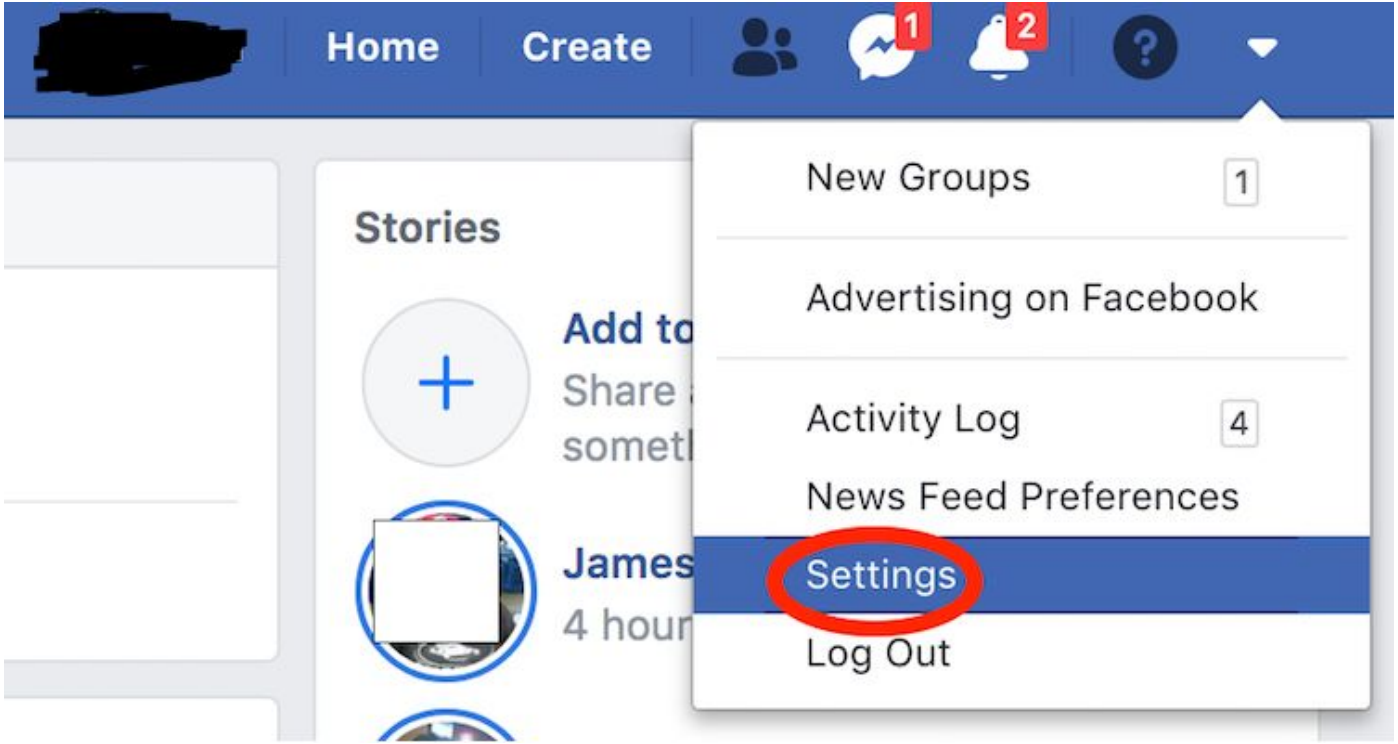
Facebook collects, stores, and sells information about you so you get better targeted ads and your newsfeed is tailored to your categories.

Other social media sites that do this:

- Instagram (owned by Facebook)
- Google
- YouTube (owned by Google)
- Twitter

Feel free to ask questions at any point during the presentation!

Settings > Ads > Your information > Categories



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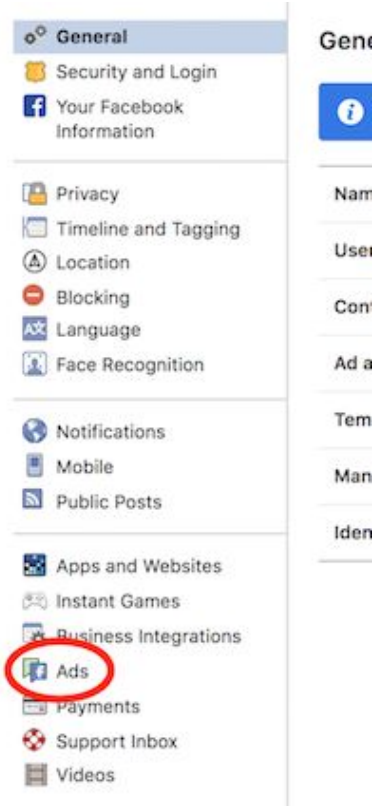

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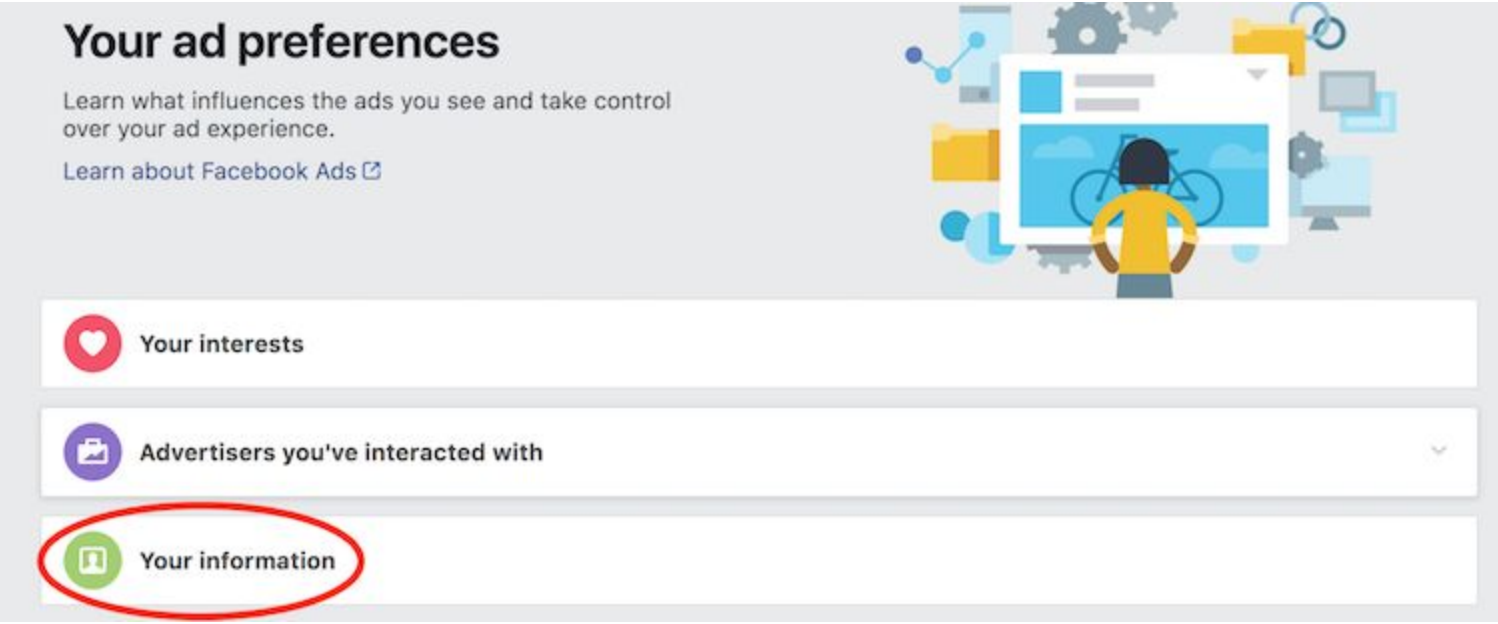

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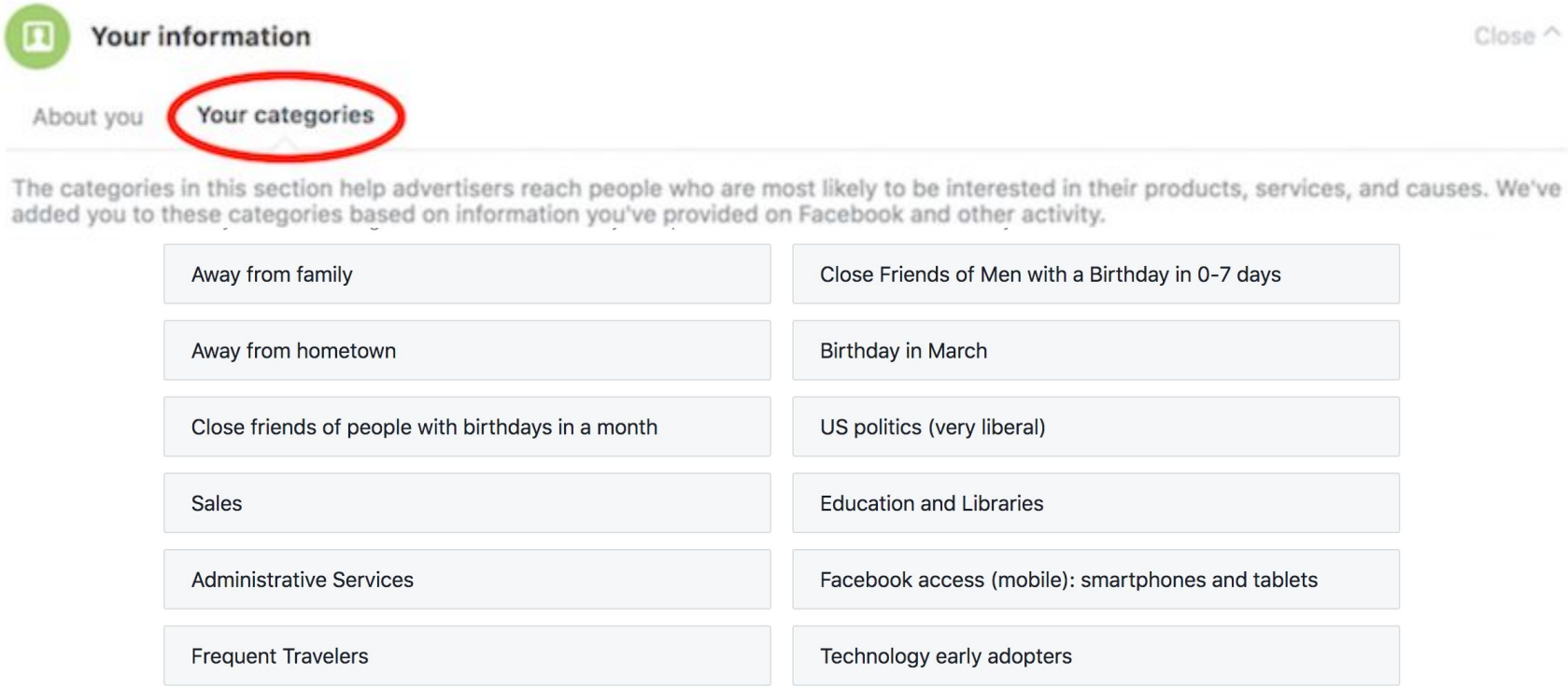

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AWARENESS | SCIENCE & TECH | AUG 3, 2019 AT 11:08 AM.

Google's File on You is 10 Times Bigger Than Facebook's — Here's How to View It

Google, Amazon, Apple, and Microsoft are all central players in "surveillance capitalism" and prey on our data.

THE ANTI-MEDIA

Example: If you have **location services** turned on for Google (like if you use Google maps), Google can track your every move. Go to:

https://www.google.com/maps/timeline

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Downloading Your Data

Facebook: Settings > Your Facebook Information > Download your Information

Google: https://support.google.com/accounts/answer/3024190?hl=en.

Instagram: Settings > Security > Access Data/Download Data

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Ethical Implications

- Cambridge Analytica Controversy
- Big data also raises questions of autonomy, anonymity, privacy, discrimination, and bias.
- Questions to consider:
  - How are we being represented online?
  - How is our data being used?
  - Who is using it and for what purposes?
  - How might it be used in the future?

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DIY Cybersecurity and Tightening your Privacy

Want to make your life more private? Follow this “DIY Guide to Feminist Cybersecurity”

https://hackblossom.org/cybersecurity/

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Algorithms and Bias

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Activity: Adopt or Not?

Small Group: Find a partner or two! You all work for an adoption agency and have to decide if someone can adopt a dog. On your handouts, please read the four previous adoption applications and decide if the new adoption applicant can adopt or not.

Do you think this new applicant can adopt a dog? Why or why not?

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Class Discussion: Adopt or Not?

- Do you ACCEPT or REJECT their application? Why?
- What questions from the application did you weigh more? Why?
- What might be some implicit biases in this application and in your choices?

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Want to learn more about accountability and best practices when creating algorithms?

Visit https://www.fatml.org/, or Fairness, Accountability, and Transparency in Machine Learning

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So what do ‘big data’ & algorithms have to do with research?

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Questions Researchers Must Ask

- What **information** is being collected and from where? To whom does this data **belong**?
- How is it being **collected**? Do **participants** know that it is collected, how it will be collected, and how will it be used?
- **How** will the data be analyzed? What **biases** and **ideologies** may be implicit in this analysis?
- Who will this research impact? Who will it **benefit**? Who will it potentially **harm**?

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Thank you!

If you have any questions, contact us at:

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Slides, handouts, and data available at **https://bit.ly/2H48Yc1**

DTI office hours: **Tuesdays, 1–3PM in 401 Nightingale Hall**

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