REMINDERS

This is the last lecture, but not the end of the class!

Final exam:
• (Piazza post)
• Just like midterm - email to ask with “CMSC828M” in subject
• Submit your exams by 8am on Monday, May 14th!

Final project:
• (Piazza post)
• Submit your project writeups by 5pm on Wednesday, May 16th!
COURSE EVALUATIONS

Please please please please fill them out!

This is only the second time CMSC828M has been offered

• Want to make it better!

Completely anonymous

No impact on your grade

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This is all I see until after I’ve submitted your final grades!
APPLYING “APPLIED” MECHANISM DESIGN
INFORMED CONSENT

“Respect for persons” – cornerstone value for any conception of research ethics

Informed consent de facto way to “operationalize” that principle

- Integral component of medical research for many decades
- Applicable for any research where “personal information” is divulged or human experimentation performed
- Institutional Review Boards (IRBs) in charge of implementing

How it translates into the “big data” world?

- Largely ignored by most researchers
HISTORY

Systematic scientific experimentation on human subjects rare and isolated prior to the late 19th century

Some early directives in late 19th century and early 20th century

• Prussian directive in 1900: any medical intervention for any purpose other than diagnosis, healing, and immunisation must obtain “unambiguous consent” from patients after “proper explanation of the possible negative consequences” of the intervention

Nuremberg Code, drafted after conclusion of Nazi Doctors’ trials:

• established a universal ethical framework for clinical research
• “the voluntary consent of the human subject is absolutely essential” to ethical research
• Detailed specific guidelines on what to present to subjects (nature/duration/purpose, how conducted, effects on health, etc)
HISTORY

Salgo v Leland Stanford etc. Board of Trustees (1957) … cited as establishing the legal doctrine of informed consent for medical practice and biomedical research in the United States

- Plaintiff was awarded damages for not receiving full disclosure of facts

In 1953: NIH put the first IRB in place in its own hospital

- … voluntary agreement based on informed understanding shall be obtained from the patient
- … will be given an oral explanation in terms suited for his comprehension
- Only required a voluntary signed statement if the procedure involved “unusual hazard.”
A more detailed list of requirements emerged later

- 1) A fair explanation of the procedures to be followed, including an identification of those which are experimental;
- 2) A description of the attendant discomforts and risks;
- 3) A description of the benefits to be expected;
- 4) A disclosure of appropriate alternative procedures that would be advantageous for the subject;
- 5) An offer to answer any inquiries concerning the procedures;
- 6) An instruction that the subject is free to withdraw his consent and to discontinue participation in the project or activity at any time

“Common Rule” – codification of “respect for persons, beneficence, and justice”

- Regulates use of human subjects in US today
- More elaborate treatment of all of these aspects
NON-MEDICAL RESEARCH

Unclear how the rules translate to other types of research
Identifying harm or potential risks difficult
Requirements and experiments change over the course of the study
The list of subjects itself evolving

CS has rarely had to deal with IRBs
• Although changing …
INDUSTRY RESEARCH

Less distinction between conventional or academic social scientific research and industry- or market-oriented research

Data fusion can lead to new insights and uses of data

Hard to translate the “informed consent” requirements to these settings
CASE STUDY: FACEBOOK EMOTIONAL EXPERIMENT

Facebook routinely does A/B testing to test out new features (e.g., layouts, features, fonts, etc)

In 2014: intentionally manipulated news feeds of 700k users
  • Changed the number of positive and negative stories the users saw
  • Measured how the users themselves posted after that

Hypothesis: Emotions spread over the social media

Huge outcry

Facebook claims it gets the “consent” from the user agreement
OKCUPID EXPERIMENTS

Experiment 1: Love is Blind

- Turned off photos for a day
- Activity went way down, but deeper conversations, better responses
- Deeper analysis at the link below

Experiment 2:

- Turned off text or not – kept picture
- Strong support for the hypothesis that the words don’t matter

Experiment 3: Power of Suggestion

- Told people opposite of what the algorithm suggested

https://theblog.okcupid.com/we-experiment-on-human-beings-5dd9fe280cd5
GDPR AND CONSENT

General Data Protection Regulation – new law in EU to take effect next year

Requires unambiguous consent

- data subjects are provided with a clear explanation of the processing to which they are consenting
- the consent mechanism is genuinely of a voluntary and "opt-in" nature
- data subjects are permitted to withdraw their consent easily
- the organisation does not rely on silence or inactivity to collect consent (e.g., pre-ticked boxes do not constitute valid consent);
WRAPPING UP
PEOPLE YOU SHOULD TALK TO

MohammadTaghi HajiAghayi
• Fair division, security games, auction theory
Me!
• Ethics & diversity in matching markets, barter exchange, FATML
Larry Ausubel (Economics)
• Incentive auctions (he ran the FCC auction)
Peter Cramton (Economics)
Dana Nau + Tom Goldstein
• Game theory & behavioral stuff
Hal Daume + Jordan Boyd-Graber
• FATML, intention behind action
GROUPS YOU SHOULD TALK TO

Google NYC
- Auctions

Microsoft Research
- Prediction markets
- Auctions
- Market design & society

Facebook
- Auctions
- Behavioral Econ

Lots, lots, lots more …
UPCOMING PLACES TO SUBMIT YOUR PROJECTS

**AAAI** (September)
- game theory, AI/ML, ethics & AI

**CHI** (September)
- human-computer interaction, AI impact on humans

**FAT** (October)
- fairness in machine learning

**WWW** (October/November)
- Internet stuff, big networks, auctions

**NIPS Workshops** (October/November)
- various ML topics — https://nips.cc/Conferences/2017/Schedule?type=Workshop

**AAMAS** (November)
- multi-agent systems, game theory
THANKS!

HTTPS://WWW.COURSEEVALUM.UMD.EDU/