



Talk's Goals

Cover the Basics

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Cover More Interesting Cases

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Cover the Basics

Cover More Interesting Cases

Not Be Completely Boring



Responsible Conduct of Research (RCR)

Much (though not all) material or topics taken from CITI Training modules on RCR

"research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results."



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"research...the record of data or results that embody the facts resulting from scientific inquiry, and includes, but is not limited to, research proposals, laboratory records, both physical and electronic, progress reports, abstracts, theses, oral presentations, internal reports, and journal articles."



"Research misconduct does not include honest error or differences of opinion"



"Research misconduct does not include honest error or differences of opinion"

intentionally



"Research misconduct does not include honest error or differences of opinion"

intentionally knowingly



"Research misconduct does not include honest error or differences of opinion"

intentionally knowingly recklessly

US Office of Science and Technology Policy, 2000



"Not going to go over egregious cases of data falsification....you can Google them"

- Eating M&Ms ("whether individuals are inclined to consume more when primed with the idea of capitalism") -- http://www.nytimes.com/2013/04/28/magazine/ diederik-stapels-audacious-academic-fraud.html?pagewanted=all&_r=0
- Short conversations changing people's minds regarding gay marriage rights Backof-the-envelope cost calculations for costs w.r.t. study compensation expenses resulted in discovery -- http://nymag.com/scienceofus/2015/05/how-a-gradstudent-uncovered-a-huge-fraud.html

Tl;dr: Don't do it.





- Contribute to society and human well-being.
- •
- •
- •
- •

•



- Contribute to society and human well-being.
- Avoid harm to others.
- •
- •
- •
- .
- •



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- Be honest and trustworthy.
- .
- •
- •
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- Honor property rights including copyrights and patent.
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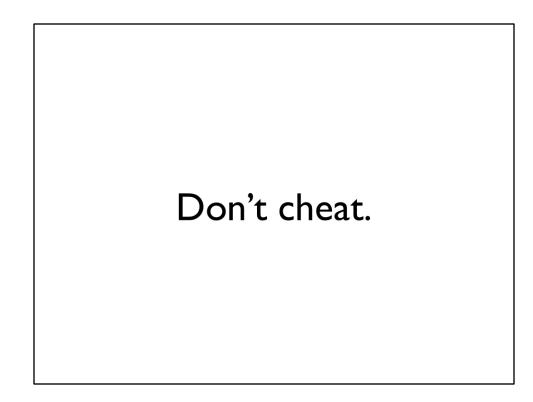
https://www.usenix.org/lisa/system-administrators-code-ethics



http://www.ieee.org/about/corporate/governance/p7-8.html



PLAGIARISM



Slides from Matt Might's grad orientation

What is cheating?

Ctrl-C, Ctrl-V

Cheating

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¬Cheating

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(Author, Date)

Other good reasons aside from credit...

What if they're wrong?

What are the assumptions – do they change over time?

Etc.

¬Cheating

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(Author, Date)

https://en.wikipedia.org/wiki/Phase-out_of_incandescent_light_bulbs

Applies to ideas as well



Corner cases (thanks, Zvon):

- What about copy-pasting related work paragraphs (or background section) that you wrote for one paper into a newer paper of yours on a similar topic?
- Writing a PhD thesis often involves putting together several papers, i.e., published papers become chapters of your thesis. In the process, often lots of text from the original papers gets copy-pasted into a thesis. Papers are often coauthored by multiple people. What if not every single sentence that you copy-pasted into your thesis was written by you?
- What about paraphrasing paragraphs from someone else's paper?



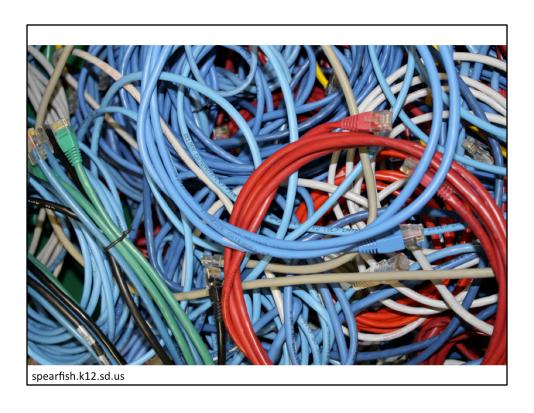
Cultural Differences w.r.t. what constitutes plagiarism

Questionable Research Practices

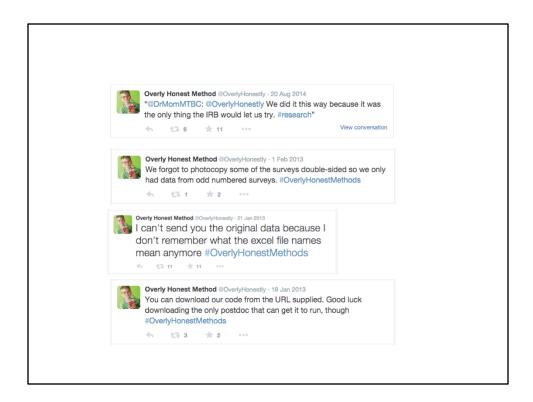


The ideal scientific method is squeaky clean and has no complications:

"The scientific method relies on a hypothesis-driven experiment. Data are collected, then analyzed and interpreted. The results are communicated to others, who can assess the methods, the data, and the conclusions. A sufficient number of confirmed hypotheses build to support a theory." (CITI training)



"In the real world, it is rarely this clean and linear." (CITI training)



A little humor to start off (slightly tongue in cheek, but funny because there's a grain of truth – "perfection is the enemy of progress"; different areas have different standards for what is common practice and what is misconduct)

When Researchers Say	What It Means
"It has long been known"	I didn't look up the original reference.
"Typical results are shown"	This is the prettiest graph.
"In case after case"	Twice.
"In a series of cases"	Thrice.
"It is believed that"	I think.
"It is generally believed that"	A couple of others think so, too.
"It might be argued that"	I have such a good answer for this objection that I want to be sure I get to use it.



AUTHORSHIP

Authorship: Privilege and Responsibility

"significant intellectual contribution"



http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

Authorship: Privilege and Responsibility

"significant intellectual contribution"

ACKNOWLEDGMENTS

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http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

Honorary or gift authorship

http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

Whether it benefits you, them, or both...

Honorary or gift authorship

Least Publishable Units

http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

The length you need to describe:

- a) A new contribution
- b) In depth

May be in-progress (e.g., at a workshop), followed by a later, more finalized conference paper

Honorary or gift authorship

Least Publishable Units

Duplicate publications

http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

- Simultaneous submissions
- Archival vs. non-archival

Questions that arose:

arXiv – address explicitly? (May also be necessary to explain the role of tech reports / white papers)

Honorary or gift authorship

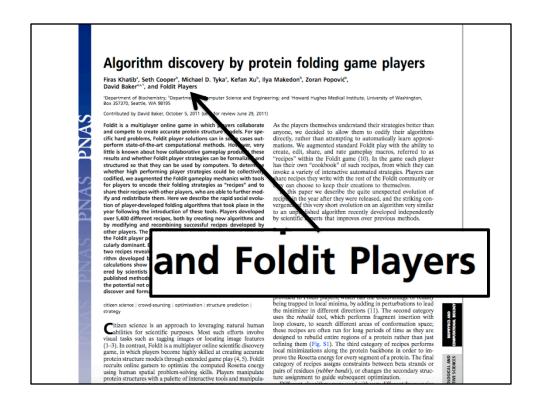
Least Publishable Units

Duplicate publications

Joke or N/A authors

http://academia.stackexchange.com/questions/2467/what-does-first-authorship-really-mean

(CITI RCR used to have deceased [not sure what the policy is, actually], pets, makebelieve)

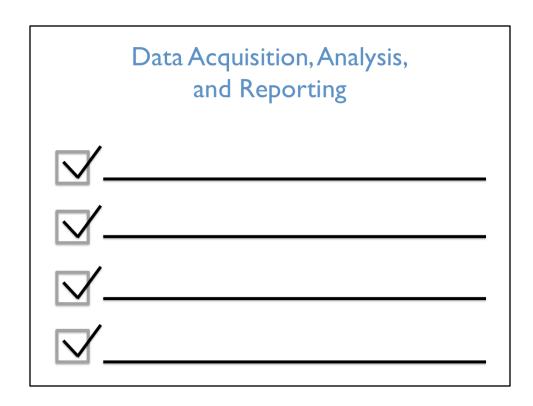


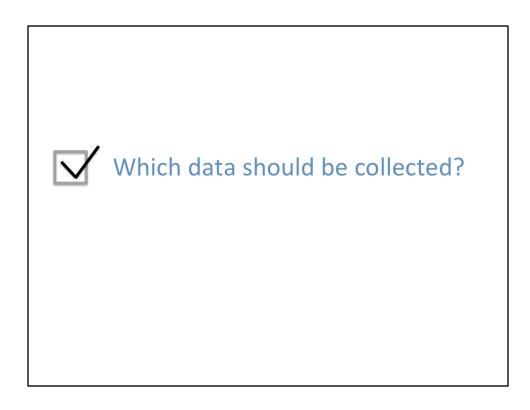
Question: OK or not?

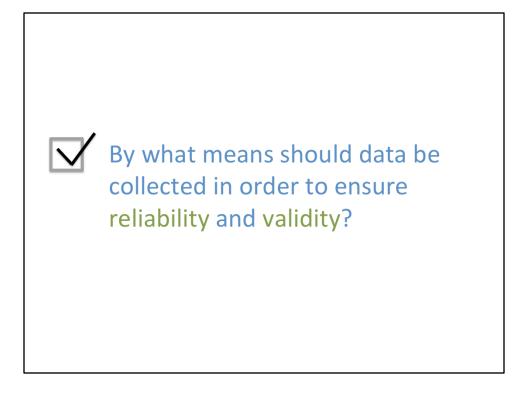
The first author Senior grad student on the project. Made the figures. The second author Grad student in the lab that has nothing to do with this project, but was included because he/she hung around the group meetings (usually for the food). The middle authors Author names nobody really reads. Reserved for undergrads and technical staff. The last author The last author The head honch. Hasn't even read the paper but, hey, he god the funding, and his farmous name will get the paper accepted. http://www.phdcomics.com/comics/archive.php?comicid=562

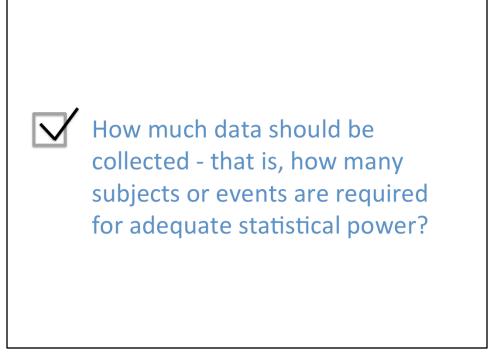


DATA





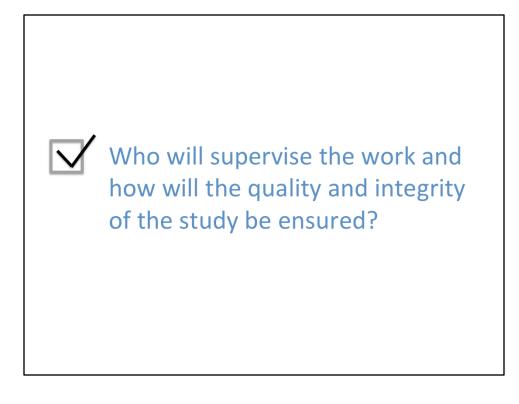




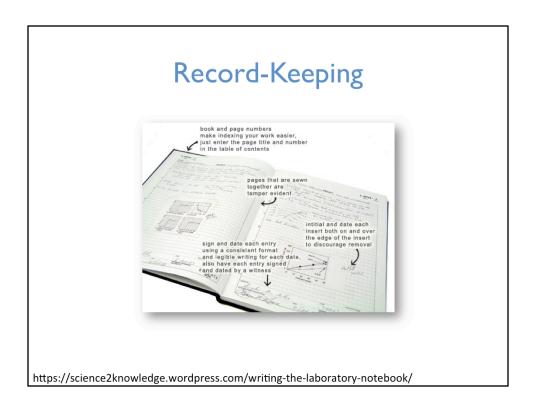
(Discussing and deciding on these things ahead of time helps combat "hey there's a deadline this is good enough"



Which collection methods will be used and how will those methods reduce the likelihood of error or bias?



:%s/collect/analyze/
:%s/collect/document/
:%s/collect/report/

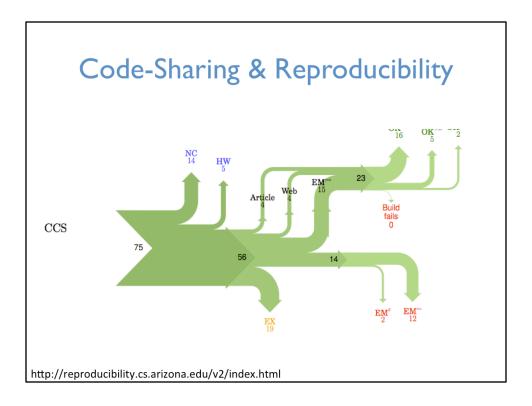


In other disciplines, there's a longer history....(e.g., pen-only, date and initial pages and have others initial them as checks)



Errors and failures to document with deadlines, etc...

One possible approach: Try to automate everything, including records of, e,g., recording parameters that went into simulation runs, so you're not stuck wondering what exactly happened later...



Growing dissatisfaction with papers that don't share code or data.

Example: figure comes from paper that attempts to recompile and run code from papers at a particular set of conferences during particular years. Results uninspiring. (Not everyone agrees with the methodology of this particular tech report, but the point stands)

Some conferences now require (or give preference) to this kind of evidence

Question that came up: How do you convince others (e.g., advisor) of the value of continuing to support research software?

Zvon's additions:

- What about publishing source code and input data used in experiments? What if the results were obtained during an internship and the company does not allow data (or even source code) to be published?
- How to ensure that experiments are reproducible? To how much trouble should we go through to have reproducible experiments?



CONFLICT OF INTEREST

- NSF Guidelines:
 - family, advisor, advisees, recent collaborators, recent or potential institutions, financial

http://matt.might.net/articles/how-to-peer-review/

- NSF Guidelines:
 - family, advisor, advisees, recent collaborators, recent or potential institutions, financial

What else?

http://matt.might.net/articles/how-to-peer-review/

Question: What else should we worry about w.r.t. Col?

Friend

http://matt.might.net/articles/how-to-peer-review/

From Matt Might:

"If you're a "close personal friend" of an author, decline review.

There's debate about the what "close" means, so ask yourself the following:

Would you review the paper impartially? If the answer is no, she is too close.

And, the meaning of close can fluctuate over time.

Is she nearing tenure? Is he about to go on the academic job market?

In such cases, you might be more tempted to "help.""

Friend

Foe

http://matt.might.net/articles/how-to-peer-review/

From Matt Might:

"It is equally important to recuse yourself if you have strong personal objections to an individual or work.

Even if you think you can review the manuscript fairly, decline to review, since a negative recommendation would be seen as tainted."

Friend

Foe

Scholarly Conflict

http://matt.might.net/articles/how-to-peer-review/

From Matt Might:

"Every so often, you'll receive a manuscript to review in which you discover that someone else has independently solved the same problem as you.

These manuscripts cause heartburn.

I recommend informing the program chair or editor and recusing yourself from discussion of such manuscripts, since it is unlikely that you will be able to review it without some emotion.

If the paper is accepted but your work provides a better solution, you may be able to publish it.

If the paper is rejected, you may still want to walk away from publishing your work, since there could be accusations that you benefited from seeing their work.

If you decide to pursue publication, you can approach the authors directly or through the program chair or editor.

Explain that you recused yourself from discussion once you recognized they had

Friend
Foe
Scholarly Conflict

Pigeon Hole

http://matt.might.net/articles/how-to-peer-review/

From Matt Might:

"There is a perception among some graduate students that if a venue will accept N papers, then giving a favorable review to a competing submission reduces that to N-1.

This is simply not true.

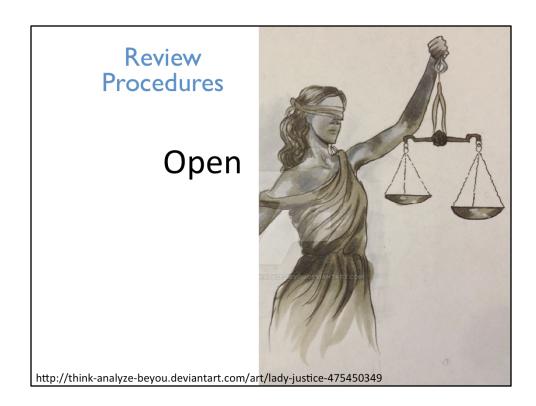
Papers are judged on the standards of the venue, and this tends to yield a similar rate of acceptances every year.

If you feel you can't review a manuscript objectively because you have a competing submission to the same venue, then decline to review.

Don't think that tanking a competing submission will improve your odds.

It will not.

And, if anyone suspects your review was tainted by a perceived pigeon-hole conflict, it could do measurable harm to your reputation."







- PC rules & stepping out of room
- Reporting conflicts pro-actively (even if conference doesn't have a system for it)
- De-anonymizing self as a reviewer generally viewed as OK everything else is problematic

Reviews tl;dr

Confidentiality Reliability

Professionalism

Reviews tl;dr

Confidentiality Reliability

HotCRP

HotCRP Conference Management Software

HotCRP is conference management software: it accepts paper submissions original CRP. (I haven't used <u>Conferencerview.com</u> or <u>Continue</u>.) HotCRP is START's single-page paper submission form is easier than HotCRP's paper:
HotCRP is open source and requires that you run your own server, although version 5 or higher, plus several PHP packages. The READNE for the latest r

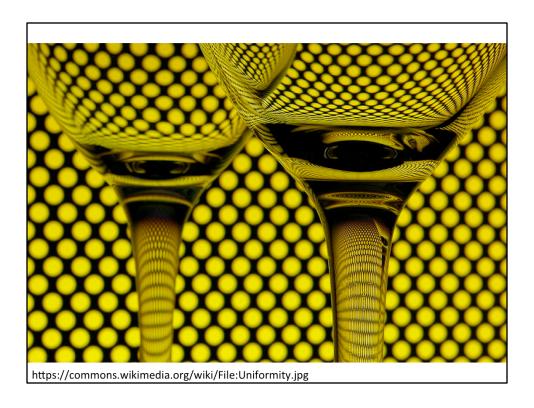
HotCRP was written for the HotNets V workshop in 2006, and used thereaf

qit clone https://qithub.com/kohler/hotcrp.qit

Download hotcrp-2.95.tar.gz (released 19.Jun.2015, 864717 bytes)

Professionalism

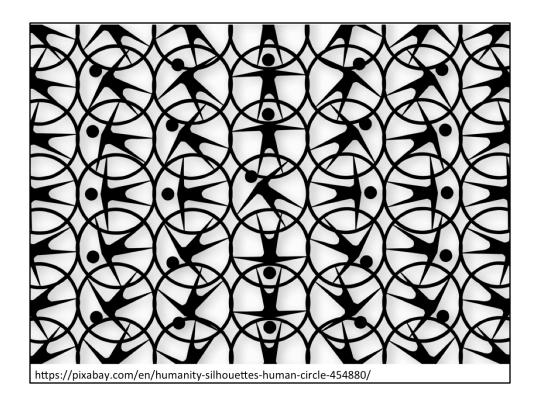
Seriously, that's not an uncommonly used conference review system



Bias or the _appearance_ of bias



When in doubt, ask/disclose



HUMAN SUBJECTS RESEARCH

Let's talk about principles behind ethical HSR

Respect for Persons

Informed Consent

...a common component being informed consent

Consider:

- Clear explanations
- Explanation of alternatives
- etc

Beneficence

Do No Harm

Maximize Benefits

Or, if harm is necessary, maximize benefits...



Make sure that, for example, the harms and the benefits correspond to the same population and that you don't, for example, experiment (detrimentally) on prisoners because they're convenient when the benefits are for everyone



There are procedures in place which are required for all research performed with federal money (e.g., NSF) and usually apply to all the research of an institution that receives federal funding

Utah's IRB website



If it even vaguely smells like people or their data....



Go ahead and submit for an exemption – it is the review board's job to make that decision, not yours

Some conferences that don't traditionally deal with humans have started to require statements about IRB approval in manuscripts

IRB-Approved ≠ Ethical

Obtaining IRB approval does not absolve you of considering the broader ethics

Statement from the SIGCOMM 2015 Program Committee: The SIGCOMM 2015 PC appreciated the technical contributions made in this paper, but found the paper controversial because some of the experiments the authors conducted raise ethical concerns. The controversy arose in large part because the networking research community does not yet have widely accepted guidelines or rules for the ethics of experiments that measure online censorship. In accordance with the published submission guidelines for SIGCOMM 2015, had the authors not engaged with their Institutional Review Boards (IRBs) or had their IRBs determined that their research was unethical. He PC would have rejected the paper without review. But the authors die ngage with their IRBs, which did not flag the research as unethical. The PC hopes that discussion of the ethical concerns these experiments raise will advance the development of ethical guidelines in this area. It is the PC's view that future guidelines should include as a core principle that researchers should not engage in experiments that subject users to an appreciable risk of substantial harm absent informed consent. The PC endorses neither the use of the experimental techniques this paper describes nor the experiments the authors conducted.

Encore: Lightweight Measurement of Web Censorship with Cross-Origin Requests

Sam Burnett School of Computer Science, Georgia Tech sam.burnett@gatech.edu

Abstract

Despite the pervasiveness of Internet censorship, we have scant data on its extent, mechanisms, and evolution. Measuring censorship is challenging: it requires continual measurement of reachability to many target sites from diverse vantage points. Amassing suitable vantage points for longitudinal measurement is difficult; existing systems have achieved only small, short-lived deployments. We observe, however, that most Internet users access content via Web browsers, and the very nature of Web site design allows browsers to make requests to domains with different origins than the main Web page. We present Encore, a system that harnesses crossorigin requests to measure Web filtering from a diverse set of vantage points without requiring users to install custom software, enabling longitudinal measurements from many

Nick Feamster Department of Computer Science, Princeton feamster@cs.princeton.edu

months of measurements, and discuss ethical concerns that would arise with widespread deployment.

Categories and Subject Descriptors

 \bullet Networks \to Network measurement; Web protocol security \bullet Social and professional topics \to Technology and censorship

Keywords

Web censorship; Network measurement; Web security

1 Introduction

Internet censorship is pervasive: by some estimates, nearly 60 countries restrict Internet communication in some way [35].

Conference PCs still figuring out how to handle this...reject? Accept with notice?

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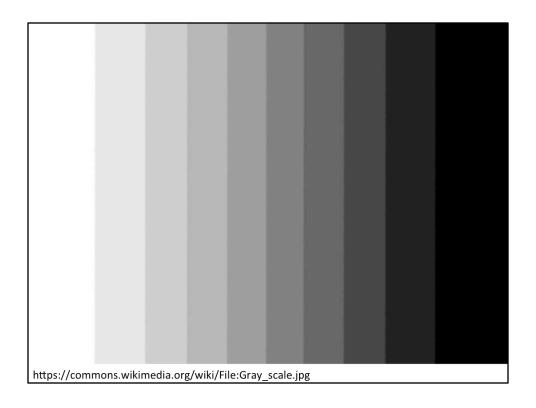
1 Introduction

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There are increasingly other (voluntary) resources to undergo ethics checks (varies by discipline) – e.g., screenshot



Let's talk about gray areas in research



A/B testing in industry regarding products and product performance is common.

There isn't necessarily any ethical oversight in companies

Emotional Contagion study received a lot of media attention recently

Basically, Facebook experimented with what was displayed in newsfeeds. Some newsfeeds showed > more emotionally positive posts (by some NLP definition) and some newsfeeds showed > negative posts. Effect was measured in terms of whether resulting posts were more emotionally positive or negative (respectively). Surprise: they were

Objections: e.g., emotionally vulnerable individuals

Other objections: IRB seems to have been vaguely bypassed; seems like academic researchers talked with Facebook, which instrumented to collect dataset, then IRB submission at academic institution was for "pre-existing data"

Question: reactions?

But!



Self-Censorship

http://www.forbes.com/sites/kashmirhill/2014/07/10/facebook-experiments-on-users/

From Forbes:

"How they did it: They tracked every entry of more than 5 characters in a comment or compose box that didn't get posted within 10 minutes.

What Facebook found out: We're thinking things that we don't put down to digital paper. 71% of the users "self-censored," drafting comments that they never posted."

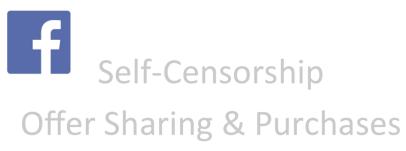


Offer Sharing & Purchases

http://www.forbes.com/sites/kashmirhill/2014/07/10/facebook-experiments-on-users/

From Forbes:

"Users had the active or "passive" sharing randomly assigned to them, changing their experience (and their spammed friends' experience) of the site. When given the option to share, only 23% chose to do so"

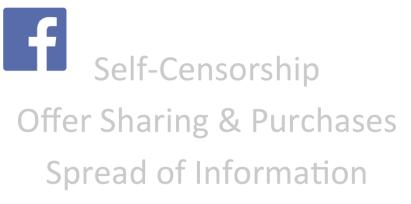


Spread of Information

http://www.forbes.com/sites/kashmirhill/2014/07/10/facebook-experiments-on-users/

From Forbes:

"Researchers "randomly" assigned 75 million urls a "share" or "no-share" status... ""Directed shares, such as a link that is included in a private Facebook message or explicitly posted on a friend's wall, are not affected by the assignment procedure," wrote the researchers."



Encouraging Voting

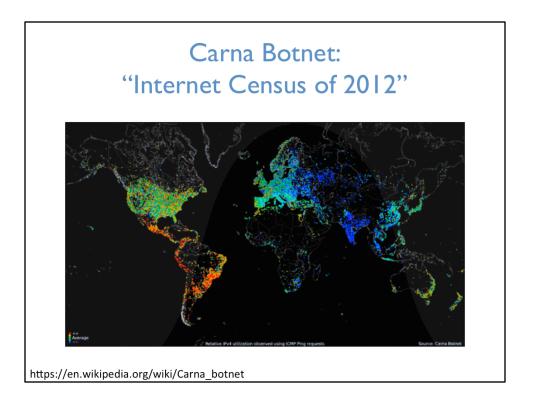
http://www.forbes.com/sites/kashmirhill/2014/07/10/facebook-experiments-on-users/

From Forbes:

"When it happened: 2010 midterm elections in the U.S.

How many users: 61,279,316 users over the age of 18

How they did it: They offered test subjects an 'I Voted' button at the top of their News Feeds and information on how to find their polling place. Some users also saw the names of their friends who had clicked the button. The control group got no prompt to vote. Then the researchers checked public voting records to see which of the millions actually voted."



From Wikipedia:

"The Carna botnet was a botnet of 420,000 devices created by an anonymous hacker to measure the extent of the Internet in what the creator called the "Internet Census of 2012".

The data was collected by infiltrating Internet devices, especially routers, that used a default password or no password at all.

World map of 24-hour relative average utilization of IPv4 addresses observed using ICMP ping requests by Carna botnet, June - October 2012"

Question:

- OK or not?
- OK to use resultant dataset or not?

Mechanical Turk

What are some ethical issues you might face using Mechanical Turk workers?

e.g., do you pay them minimal wage? Minimal mage according to where?

Question that came up: What are Amazon's current recommendations w.r.t. this?

Research and PR

http://www.hizook.com/blog/2012/07/02/being-honest-robot-videos-motion-capture-speedup-rates-and-teleoperation

Interesting as a broad topic. More specifically, let's talk about videos.

Some venues require short summary videos. Other researchers produce them (or FAQs, or press releases) optionally.

From hizook.com:

"The video needs to stand alone.

[&]quot;It's mentioned in the audio." Not everyone listens to the audio.

[&]quot;You can read the paper for details." Non-academics don't read papers -- full stop.

[&]quot;It's in the YouTube title or description." The videos on this page are embedded. It's too easy to miss.

[&]quot;This video is only for other researchers." Too bad, the general public will consume it too."

Research and PR

Towards a Swarm of Nano Quadrotors

Alex Kushleyev, Daniel Mellinger, and Vijay Kumar GRASP Lab, University of Pennsylvania

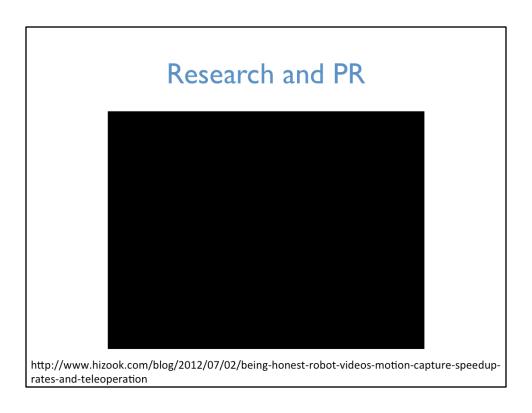
http://www.hizook.com/blog/2012/07/02/being-honest-robot-videos-motion-capture-speedup-rates-and-teleoperation

From hizook.com:

"...But what you may have missed... the inconspicuous infrared cameras that form the backbone of a "20-camera Vicon motion capture system" that costs between \$20k and \$50k"

Audio+visual? Watermarked video?

Question that came up: Are we really responsible for people's ignorance?



Clarify teleoperated vs. scripted vs. autonomous:

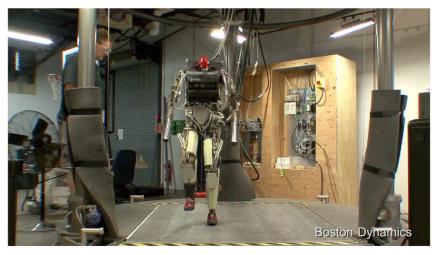
Video is Teleoperated and sped up



http://www.hizook.com/blog/2012/07/02/being-honest-robot-videos-motion-capture-speedup-rates-and-teleoperation

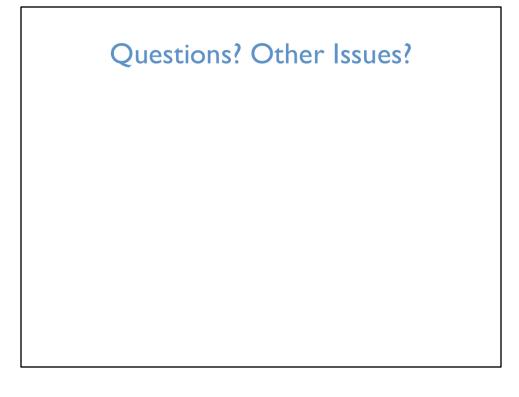
Video is 50x realtime

Research and PR



 $http://www.hizook.com/blog/2012/07/02/being-honest-robot-videos-motion-capture-speedup-rates-and-teleoperation \\ \underline{\hspace{1.5cm}}$

Tethered vs. wireless, battery-powered



What research are you even choosing to conduct? Are there embedded implicit values (e.g., net neutrality is positive)?

If you're making tools, what things do those tools make easy? What things don't they support? What are the implications?