

Ethical Considerations in Network Security and Network Measurement Research

Exploration and Confusion from a PH.D. Student

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Experience Must Be Bought



Important Dates

Considering the challenges we all face at this time, the TPC chairs have decided to extend the paper registration and submission deadline by one week. Please note the changed dates. Beyond this, if you are an author who has been directly affected by the disease, please do not hesitate to contact the chairs directly at imc2020pcchairs@sigcomm.org.

Paper registration (with abstract)	Tuesday May 19, 2020 May 26, 2020 at 11:59PM PDT (UTC-7)
Paper submission	Tuesday May 26, 2020 June 2, 2020 at 11:59PM PDT (UTC-7)
Early reject notification	Friday July 10, 2020 Monday July 20, 2020
Notification	Wednesday August 12, 2020
Camera-ready due	Wednesday September 23, 2020
Conference	October 27 - 29, 2020

2020.05.26

One Paper submitted to IMC' 20

2020.08.12 Notification Date

Unexpectedly, instread of reviews, I received such an email...

Experience Must Be Bought

Detection and measurement of a new type of fraudulent cybercrime

Dear authors,

Your IMC submission [REDACTED] was flagged by the IMC reviewers as requiring further consideration due to legal or ethical concerns.

An Ethics committee reviewed the work and concluded that your paper fails to meet the required ethical standard for human subject research for the following reasons:

- 1) Details of what users agree to when turning on [REDACTED] were not clear.
- 2) The paper says nothing about an IRB procedure for the researchers.
- 3) There is no description of how the data was handled by the researchers.
- 4) The reports on specific aspects of PII in the paper [REDACTED], which significantly raises the bar in terms of user consent.

Given that none of these issues are addressed in the paper as required by the CFP, your paper has been rejected on ethical grounds.

Superficial Knowledge of Ethical Standards

What I know

- Existence of ethical standards
- Several typical requirements
- Need to write something in paper

What I don't know

- Origin and evolution of specific claims
- Systematic ethical considerations
- How to organize a well writing

Survey: Ethics in Network Security/Measurement

- Requirement of ethical standards in CFP of major security conferences
 - S&P, NDSS, CCS, USENIX, IMC
- Recognized papers/reports devoted to ethical issues
 - General standards of information technology
 - Network measurement
 - Censorship (measurement)
 - Data sharing
- How ethical issues are indicated in published studies in recent years
 - Learn how to design experiment and write ethical consideration sections

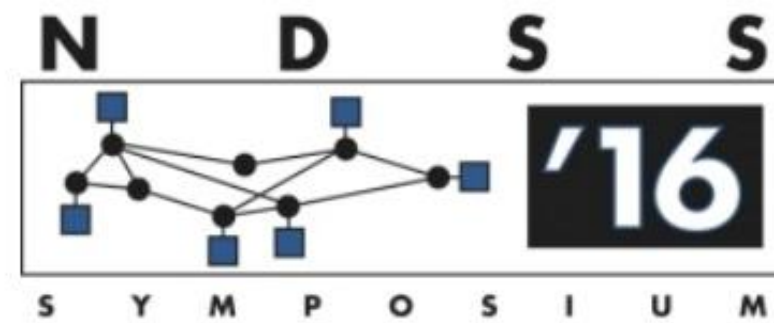
Timeline: Ethics Requirement Changes in CFP

IMC-2009

Internet Measurement Conference 2009
Sponsored by ACM SIGCOMM



NDSS-2016



NEW
Competing Interests

2009

2013

2016 2017

2021



USENIX-2013



ACM Conference on
Computer and
Communications
Security



CCS-2017

S&P-2017

Ethical Standards in IMC

2009 CFP

Ethical standards for measurement must be considered by all IMC authors. In particular, authors must be aware of and conform to acceptable use policies for individual domains that are probed or monitored, data privacy and anonymity for all personally identifiable information, and etiquette for using shared measurement data (see Allman and Paxson, IMC '07). If applicable, authors are also urged to notify parties of security flaws in their products or services in advance of publication. Adherence to ethical standards for measurement will be a criteria for all submissions and violations will be grounds for rejection.

Key Points

- Must consider ethical standards for measurement
- Use policies, data privacy and anonymity, shared data, security flaw notifications
- Violations of ethical standards could be grounds for rejection

Ethical Standards in IMC

2021 CFP

Research involving experiments with human subjects or user data (e.g., network traffic, passwords, social network information) should adhere to community norms. Any work that raises potential ethics considerations should indicate this on the submission form. The basic principles of ethical research are outlined in the Belmont Report: (1) respect for persons (which may involve obtaining consent); (2) beneficence (a careful consideration of risks and benefits); and (3) justice (ensuring that parts of the population that bear the risks of the research also are poised to obtain some benefit from it).

Research involving human subjects must be approved by the researchers' respective Institutional Review Boards before the research takes place. Authors should indicate on the submission form whether the work involves human subjects, and, if so, if an IRB protocol has been approved for the research. We also expect that any research follows the practices and procedures of the institution(s) where the work is being carried out; for example, some universities require separate approval for the use of campus data. We expect researchers to abide by these protocols.

Some research does not involve human subjects yet nonetheless raises questions of ethics, which may be wide-ranging and not necessarily limited to direct effects. We encourage authors to be mindful of the ethics of the research that they undertake; these considerations are often not clear-cut, but often warrant thoughtful consideration. The program committee may raise concerns around the ethics of the work, and so we ask authors to outline these considerations explicitly in a separate appendix section (clearly marked with an appendix section heading "Ethics"), and when appropriate for context, in the body of the paper. The submission form will include a way to alert reviewers of this additional material.

Additionally, the program committee reserves the right to conduct additional evaluations and reviews of research ethics and reserves the right to independent judgment concerning the ethics of the conducted research.

Contact the program committee co-chairs at imc2021pcchairs@sigcomm.org if you have any questions.

Key Points

**Basic Principle: Belmont Report
Human Subjects**

Must approved by IRB

Other Ethical Issues

Outline in body/appendix

Clearly marked with **"Ethics"**

Ethical Standards in USENIX

2013 CFP

New in 2013: Papers that describe experiments on human subjects, or that analyze non-public data derived from human subjects (even anonymized data), should disclose whether an ethics review (e.g., IRB approval) was conducted and discuss steps taken to ensure that participants were treated ethically.

Key Points

IRB approval

Steps taken to **mitigate ethical issues**

Steps taken to **deal with vulnerabilities**

Steps taken to **deal with sensitive data**

Reject if insufficient

2021 CFP

Human Subjects and Ethical Considerations

Submissions that describe experiments on human subjects, that analyze data derived from human subjects (even anonymized data), or that otherwise may put humans at risk should:

1. Disclose whether the research received an approval or waiver from each of the authors' institutional ethics review boards (e.g., an IRB).
2. Discuss steps taken to ensure that participants and others who might have been affected by an experiment were treated ethically and with respect.

If the submission deals with vulnerabilities (e.g., software vulnerabilities in a given program or design weaknesses in a hardware system), the authors need to discuss in detail the steps they have already taken or plan to take to address these vulnerabilities (e.g., by disclosing vulnerabilities to the vendors). The same applies if the submission deals with personally identifiable information (PII) or other kinds of sensitive data. If a paper raises significant ethical and legal concerns, it might be rejected based on these concerns.

Ethical Standards in NDSS

2016 CFP

If a paper relates to human subjects, analyzes data derived from human subjects, may put humans at risk or might have other ethical or legal implications, authors should disclose if an ethics review (e.g., IRB approval) was conducted, and discuss in the paper how ethical and legal concerns were addressed. If the paper reports a potentially high-impact vulnerability the authors should discuss their plan for responsible disclosure. The chairs will contact the authors in case of major concerns. The Program Committee reserves the right to reject a submission if insufficient evidence was presented that ethical and legal concerns were appropriately addressed.

2021 CFP

If a paper relates to human subjects, analyzes data derived from human subjects, may put humans at risk, or might have other ethical implications or introduce legal issues of potential concern to the NDSS community, authors should disclose if an ethics review (e.g., IRB approval) was conducted, and discuss in the paper how ethical and legal concerns were addressed. If the paper reports a potentially high-impact vulnerability the authors should discuss their plan for responsible disclosure. The chairs will contact the authors in case of major concerns. The Program Committee reserves the right to reject a submission if insufficient evidence was presented that ethical or relevant legal concerns were appropriately addressed.

Key Points

IRB approval

Ethical and legal concerns

Responsible disclosure

Reject if insufficient

Ethical Standards in CCS

2017 CFP

Submissions will be evaluated based on their scientific merit, novelty, importance, presentation quality, and relevance to computer and communications security and privacy. If a paper includes work that raises ethical concerns it is up to the authors to convince the reviewers that appropriate practices were followed to minimize possible harm and that any harm caused by the work is greatly outweighed by its benefits. The review process will be carried out in two phases and authors will have an opportunity to provide a length-limited response to the first-phase reviews.

2021 CFP

All submitted papers will be evaluated based on their merits, particularly their importance to practical aspects of computer and communications security and privacy, novelty, quality of execution, and presentation. For papers that might raise ethical concerns, authors are expected to convince reviewers that proper procedures (such as IRB approval or responsible disclosure) have been followed, and due diligence has been made to minimize potential harm.

Key Points

Expected to provide ethics discussions (IRB, considerations)

Ethical Standards in S&P

Human Subjects and Ethical Considerations Start from 2017

Drawn from the USENIX Security 2016 CFP

Submissions that describe experiments on human subjects, that analyze data derived from human subjects (even anonymized data), or that otherwise may put humans at risk should:

1. Disclose whether the research received an approval or waiver from each of the authors' institutional ethics review boards (IRB) if applicable.
2. Discuss steps taken to ensure that participants and others who might have been affected by an experiment were treated ethically and with respect.

If the submission deals with vulnerabilities (e.g., software vulnerabilities in a given program or design weaknesses in a hardware system), the authors need to discuss in detail the steps they have taken or plan to take to address these vulnerabilities (e.g., by disclosing vulnerabilities to the vendors). The same applies if the submission deals with personal identifiable information (PII) or other kinds of sensitive data. If a paper raises significant ethical and legal concerns, it might be rejected based on these concerns.

Authors seeking ways to reduce the ethical risks of their experiments may optionally consider reaching out to the [Ethics Feedback Panel for Networking and Security](#). The panel's mission is to help researchers identify ethics-related risks, find prior research that provides precedent or data to inform ethical decision making, to suggest ways to improve experimental designs to reduce ethical risks, and provide any other information that may assist the researchers in meeting their ethical obligations. The best time to reach out to this panel is before conducting your experiments, but they may be able to assist if concerns arise during an experiment. Contact the [program co-chairs](#) if you have any questions.

Ethical Standards in S&P

Financial and Non-financial competing interests **NEW**

In the interests of transparency and to help readers form their own judgements of potential bias, the IEEE Symposium on Security & Privacy requires authors and PC members to declare any competing financial and/or non-financial interests in relation to the work described. Authors need to include a disclosure of relevant financial interests in the camera-ready versions of their papers. This includes not just the standard funding lines, but should also include disclosures of any financial interest related to the research described. For example, "*Author X is on the Technical Advisory Board of the ByteCoin Foundation,*" or "*Professor Y is the CTO of DoubleDefense, which specializes in malware analysis.*" More information regarding this policy is available [here](#).

Ethical Considerations for Vulnerability Disclosure

Where research identifies a vulnerability (e.g., software vulnerabilities in a given program, design weaknesses in a hardware system, or any other kind of vulnerability in deployed systems), we expect that researchers act in a way that avoids gratuitous harm to affected users and, where possible, affirmatively protects those users. In nearly every case, disclosing the vulnerability to vendors of affected systems, and other stakeholders, will help protect users. It is the committee's sense that a disclosure window of 45 days <https://vuls.cert.org/confluence/display/Wiki/Vulnerability+Disclosure+Policy> to 90 days <https://googleprojectzero.blogspot.com/p/vulnerability-disclosure-faq.html> ahead of publication is consistent with authors' ethical obligations.

The version of the paper submitted for review must discuss in detail the steps the authors have taken or plan to take to address these vulnerabilities; but, consistent with the timelines above, the authors do not have to disclose vulnerabilities ahead of submission. If a paper raises significant ethical and/or legal concerns, it might be rejected based on these concerns. The PC chairs will be happy to consult with authors about how this policy applies to their submissions.

Ethical Considerations for Human Subjects Research

Submissions that describe experiments on human subjects, that analyze data derived from human subjects (even anonymized data), or that otherwise may put humans at risk should:

1. Disclose whether the research received an approval or waiver from each of the authors' institutional ethics review boards (IRB) if applicable.
2. Discuss steps taken to ensure that participants and others who might have been affected by an experiment were treated ethically and with respect.

If a submission deals with any kind of personal identifiable information (PII) or other kinds of sensitive data, the version of the paper submitted for review must discuss in detail the steps the authors have taken to mitigate harms to the persons identified. If a paper raises significant ethical and/or legal concerns, it might be rejected based on these concerns. The PC chairs will be happy to consult with authors about how this policy applies to their submissions.

Ethical Standards in S&P

What's updated Detailed requirements for vulnerability disclosure

- A disclosure window of 45 days to 90 days **ahead of publication**
- Review version **must discuss** in details the steps authors taken to **address the vulnerabilities**
- Do not have to disclose vulnerabilities ahead of submission

What's NEW Financial and non-financial competing interests (required in camera-ready)

- To protect the objectivity, integrity and value of a publication, help readers form their own judgement of potential bias.
- **Financial interests**: funding, employment, personal financial interests, and etc. **No threshold.**
- **Non-financial interests**: unpaid membership of government or non-governmental organizations, acting as an expert witness, and etc.

e.g. Professor Y is the CTO of DoubleDefense, which specializes in malware analysis.

Ethical Standards in ...

Proceedings on
Privacy Enhancing Technologies
Symposium



DSN



SOUPS

PETS



RAID



ACSAC



PAM



AsiaCCS 2021

AsiaCCS



Sigcomm

acm sigcomm



NSDI

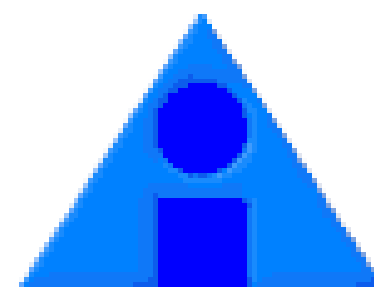


THE WEB
CONFERENCE

WWW



AAAI



IJCAI

EMNLP 2021

EMNLP



Recognized Papers/Reports Devoted to Ethics

Topic	Paper/Report
General	[1979] The Belmont Report
	[1989] RFC 1087
	ACM Code of Ethics and Professional Conduct
	[2012] The Menlo Report: Ethical Principles Guiding Information and Communication Technology Research
	[2013] Applying Ethical Principles to Information and Communication Technology Research: A Companion to the Menlo Report
	[2013 Microsoft Tech.Rep] Common pitfalls in writing about security and privacy human subjects experiments and how to avoid them
Measurement Data Sharing	[IMC' 07] Issues and Etiquette Concerning Use of Shared Measurement Data
Network Measurement	[1991] RFC 1262
	[NS Ethics@SIGCOMM' 15] Addressing Ethical Consideration in Network Measurement Paper
Censorship Measurement	[NS Ethics@SIGCOMM' 15] Forgive us our SYNs: Technical and Ethical Considerations for Measuring Internet Filtering
	[NS Ethics@SIGCOMM' 15] Ethical Concerns for Censorship Measurement
	[2015] No Encore for Encore? Ethical questions for web-based censorship measurement

The Belmont Report

THE BELMONT REPORT

Ethical Principles and Guidelines for the Protection of Human Subjects of Research

The Belmont Report

Office of the Secretary

Ethical Principles and Guidelines for the Protection of Human Subjects of Research

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research

April 18, 1979

PRINTABLE
PDF VERSION



AGENCY: Department of Health, Education, and Welfare.

ACTION: Notice of Report for Public Comment.

Issued on 1978.09.30

Summarized ethical principles and guidelines for research involving human beings

Three core principles:

- Respect for persons
- Beneficence
- Justice

The Menlo Report

The Menlo Report

Ethical Principles Guiding Information and
Communication Technology Research

August 2012



Homeland
Security

Science and Technology

Principle	Application
Respect for Persons	Participation as a research subject is voluntary, and follows from informed consent; Treat individuals as autonomous agents and respect their right to determine their own best interests; Respect individuals who are not targets of research yet are impacted; Individuals with diminished autonomy, who are incapable of deciding for themselves, are entitled to protection.
Beneficence	Do not harm; Maximize probable benefits and minimize probable harms; Systematically assess both risk of harm and benefit.
Justice	Each person deserves equal consideration in how to be treated, and the benefits of research should be fairly distributed according to individual need, effort, societal contribution, and merit; Selection of subjects should be fair, and burdens should be allocated equitably across impacted subjects.
<i>Respect for Law and Public Interest</i>	<i>Engage in legal due diligence; Be transparent in methods and results; Be accountable for actions.</i>

Proposed Guidelines for ethical assessment of ICT Research

- Michael Bailey, University of Michigan
- Aaron Burstein, University of California Berkeley
- KC Claffy, CAIDA, University of California San Diego
- Shari Clayman, DHS Science & Technology
- David Dittrich, Co-Lead Author, University of Washington
- John Heidemann, University of Southern California, ISI
- Erin Kenneally, CAIDA, University of California San Diego, Co-Lead Author
- Douglas Maughan, DHS Science & Technology
- Jenny McNeill, SRI International
- Peter Neumann, SRI International
- Charlotte Scheper, RTI International
- Lee Tien, Electronic Frontier Foundation
- Christos Papadopoulos, Colorado State University
- Wendy Visscher, RTI International
- Jody Westby, Global Cyber Risk, LLC

Authors and Working Group Participants

The Menlo Report

Guideline-1 Respect for person

- Participants **must be voluntary**
- **Informed consent** must be provided
 - State all the possible **negative consequences**
 - **Do not induce users** to participate with benefits
 - Need to be **clear for all the details, easy to understand**
 - Emphasize **voluntary** participation
 - **Explain it well** after the experiment if it had to deceive the users

Guideline-2 Beneficence

- Maximize the positive effects, minimize the negative effects
 - Take into account, **all the negative effects**, as far as possible
 - **Development of corresponding mitigation**
 - Need to **inform all the affected parties**
 - Consider the worst case scenario and prepare mitigations accordingly

The Menlo Report

Guideline-3 Justice

- Every person deserves **equal consideration** in how to be treated
- **Selection** of subjects **should be fair**
- The benefits and potential harms are **the same for all**

Guideline-4 Law and Public Interest

- Obey the law, do not compromise the public interest
- **Be open** about your methods and results
- **Be accountable** for your actions

* *Application details and case studies could be seen in: 2013 Companion to the Menlo Report.*

Dataset Sharing

Issues and Etiquette Concerning Use of Shared Measurement Data

IMC 2007

Motivation: Pose a set of reasonable, high-level considerations for [sharing and using measurement data](#).

Mark Allman
ICSI
Berkeley, CA, USA
mallman@icir.org

Vern Paxson
ICSI & LBNL
Berkeley, CA, USA
vern@icir.org

Data release considerations

Risk of **information leakage**

1. Full **anonymization** adapted to multiple scenarios
2. Detailed **usage guidelines/policies**
3. Interaction with users
4. Information of **auxiliary dataset**
5. Guidelines of how to **cite**/give acknowledgement

Data use considerations

Fully appreciate the difficulty of releasing data

1. Obey the **access policies** claimed by providers
2. **Further anonymization** before report results
3. Use **purposed-provided** data with caution
4. Be careful of **de-anonymization**
5. Notification and acknowledgement

Network Measurement

Addressing Ethical Considerations in Network Measurement Papers

NS Ethics @ SIGCOMM. 2015

Craig Partridge
Raytheon BBN Technologies
craig@aland.bbn.com

Mark Allman
ICSI
mallman@icir.org

Background: Network measurement community is increasingly facing ethics issues and finding itself poorly prepared.

Motivation: Propose measurement papers include an ethical consideration sections and give guidelines.

Scope: Ethics issues involving human beings

“Harm”

- Harm is generally spectral, consider **the worst case**
- Regardless whether the harm is **direct or indirect**
- **Potential harm** is to be discussed, even if not directly caused by the experiment

Network Measurement

Addressing Ethical Considerations in Network Measurement Papers

NS Ethics @ SIGCOMM. 2015

Craig Partridge
Raytheon BBN Technologies
craig@aland.bbn.com

Mark Allman
ICSI
mallman@icir.org

- Data collection (even passive-collected)
 - Public datasets collected in an unethical manner, e.g., compromise.
 - Non-public dataset collected in some form by researchers (more serious)
- Publish datasets
- Must be anonymized (anonymization != no-risk, e.g., de-anonymization technology)
- Do not require perfect solutions while at least, find mitigations

Basic questions authors should answer

1. Datasets **directly collected** by the authors: the ethics consideration & mitigation of **data collection**
2. Datasets **not directly collected** by the authors: if ethics has been discussed, give **citation**, otherwise provide ethical considerations **both of the data collection and the data usage**.
3. Can the data reveal **private or confidential information** of individuals? Provide mitigations.
4. Additional ethical **issues specific** to the work.

Censorship Measurement

- Ways of censorship measurement

- Network channel measurement: e.g., ping, SYN
- Client-side measurement
 - Deploy researchers with software
 - Deploy software to citizens
 - Co-opt existing deployed software

- Ethical Issues of network channel measurement

- Risk: Participation in the experiment is unlikely to be by prior consent
- Mitigation: Minimize the rate of packets

- Ethical Issues of client-side measurement

- Risk: Users involved in the measurement may also be subject to scrutiny. (higher risk – interest)
- Mitigation: Evaluate “risk score” and restrict research to “medium” regions
 - Freedom on the Internet; Economist Democracy Index; Travel Advisory
 - e.g., US->Low risk, Pakistan->Medium risk, Syria->High risk

Open questions:

- What packet rates are acceptable?
- Is it necessary for user consent?
- Proper level of risk with respect to DoS?

Learn From Published Big4 Papers

- How to write *Ethics Considerations* in an academic paper?
 - To facilitate the judgement of reviewers on whether it is compliant with ethical standards
 - To provide a sound reference for subsequent studies

IRB improved paper

Year	Oakland	USENIX	CCS	NDSS
2020	10	19	3	7
2019	8	12	11	10

10 well-written (just in my opinion) Big4 papers

Topic	Conference	Paper
Internet Measurement	NDSS' 20	Withdrawing the BGP Re-Routing Curtain: Understanding the Security Impact of BGP Poisoning via Real-World Measurements
	NDSS' 20	On Using Application-Layer Middlebox Protocols for Peeking Behind NAT Gateways
Censorship	NDSS' 20	Decentralized Control: A Case Study of Russia
	NDSS' 20	Measuring the Deployment of Network Censorship Filters at Global Scale
Scam	Usenix' 19	The Art of The Scam: Demystifying Honeypots in Ethereum Smart Contracts
	Usenix' 19	Users Really Do Answer Telephone Scams
Privacy	S&P' 19	Characterizing Pixel Tracking through the Lens of Disposable Email Services
Mobile Security	S&P' 19	Automatic Uncovering of Hidden Behaviors From Input Validation in Mobile Apps
Web Security	NDSS' 19	TRANCO: A Research-Oriented Top Sites Ranking Hardened Against Manipulation
IOT Security	Usenix' 19	All Things Considered: An Analysis of IoT Devices on Home Networks

Organization of Ethical Discussion Section

Point out the issues

Our experiment involves task1, task2,..., which may involve ethical questions Q1, Q2 and Q3...

Principles: citations

We followed report1, paper1. We designed the experiment according to report2, paper2.

Mitigations

We have done our best!

- Although we cannot rule out the possibility of xxx risk, we have taken xxx steps to reduce the possible risk.
- We try to balance between the benefits and the potential harm caused by our xxx...
- The nature of this experiment, studying xxx, involves xxx as inevitable ethical issues

Helpful third parties

- IRB. Work closely with IRB to design the study. Consulted with IRB.
- University's General Counsel. Consultations on specific legal issues.
- Experts and colleagues. Discuss how to design the experiment.
- University's IT security group, or other community responsible for security issues.

Key Points of Ethical Considerations

User Consent

Give snapshot/citation

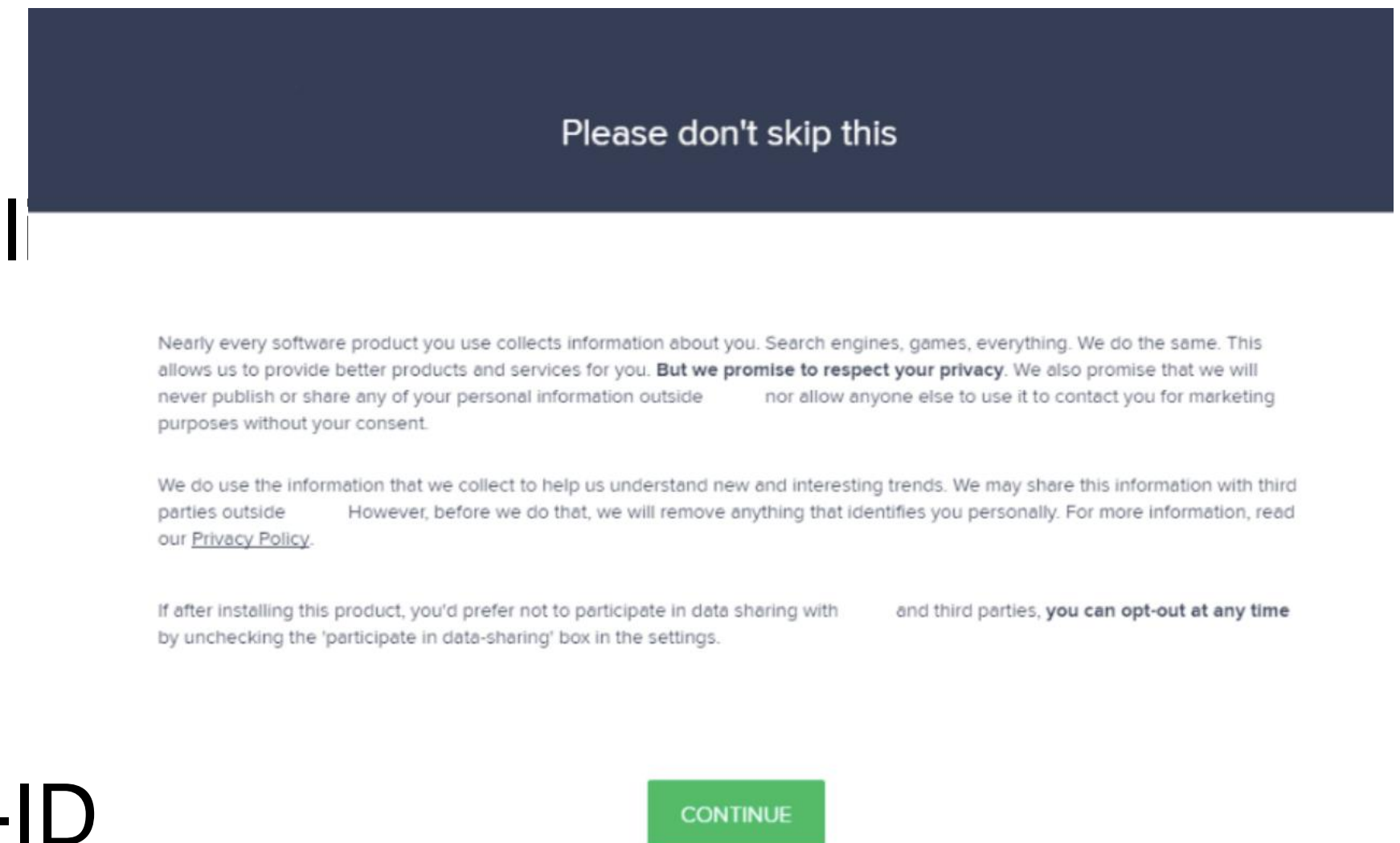
- We only collected xxx where the user explicitly agreed to xxxx policy.
- We've made user consent eye-catching, clear and easy to understand.

Anonymization

- Protect identifiers, e.g., IP address, client-ID
- Remove sensitive information, e.g., PII

Data Usage

- All collected data is stored on secured servers, and only authorized persons have access to this data
- We keep the dataset strictly to ourselves.
- Inside the company, as intern.....



Example of user consent snapshot

Solutions to Improve My Project

Main ethical-related content of the modifications:

- Details of data collection process
- Details of user consent
- Removed research content that may disclose private information
- Steps taken to mitigate the potential harm
 1. Access to data sets
 2. Remove of sensitive data (PII)
 3. Data usage & storage
- More comprehensive ethical discussion



*Ethical discussion in
IMC' 20 submission*



*Ethical discussion in
ACSAC' 21 submission*

Good Luck!

Unsolved Questions

- There are no IRBs in most of the domestic universities, except for medical departments.

学者呼吁：国内高校也该建立伦理委员会了

2018-11-27 · 一谈EDU

这所“双一流”高校成立学术伦理委员会

2019-12-17 22:38

中国人民大学学术伦理委员会工作会议暨学术边界与底线学术研讨会公告

2019/12/10

为推进一流大学建设，深入学习领会习近平总书记在全国教育大会上的重要讲话和中央全面深化改革委员会第九次会议精神，推动构建覆盖全面、导向明确、规范有序、协调一致的科技伦理治理体系，中国人民大学定于2019年12月11日在北京主办“中国人民大学学术伦理委员会工作会议暨学术边界与底线学术研讨会”。会议将邀请相关部委领导、高等教育研究专家、“双一流”建设高校相关部门负责人等作主题发言，会议规模100人左右。



Unsolved Questions



Berkeley Human Research Protection Program



清华大学医学伦理委员会

校内项目：1500.00元/次 校外项目：2500.00元/次

伦理审查委员会(Institutional Review Board, IRB)由来自社会科学各个领域的专家组成，根据国家的相关法律、法规和有关政策，对项目进行伦理审查、评价、指导，并依据伦理原则审查和监督涉及人体的研究活动，以保护受试者的权益和安全。各项研究工作需在获得IRB批准后方可执行，项目执行期间接受IRB的持续监督，定期向IRB报告进展，研究方案修改后及时向IRB报批。

2010年12月9日，清华大学医学伦理委员会（IRB）成立；2011年5月23日，清华大学IRB在美国卫生与公众服务部的人类研究保护办公室（OHRP）登记备案。清华大学IRB委员来自基础医学、临床医学、心理学、生物医学工程、法学等不同学科领域，并设有专职秘书一名。

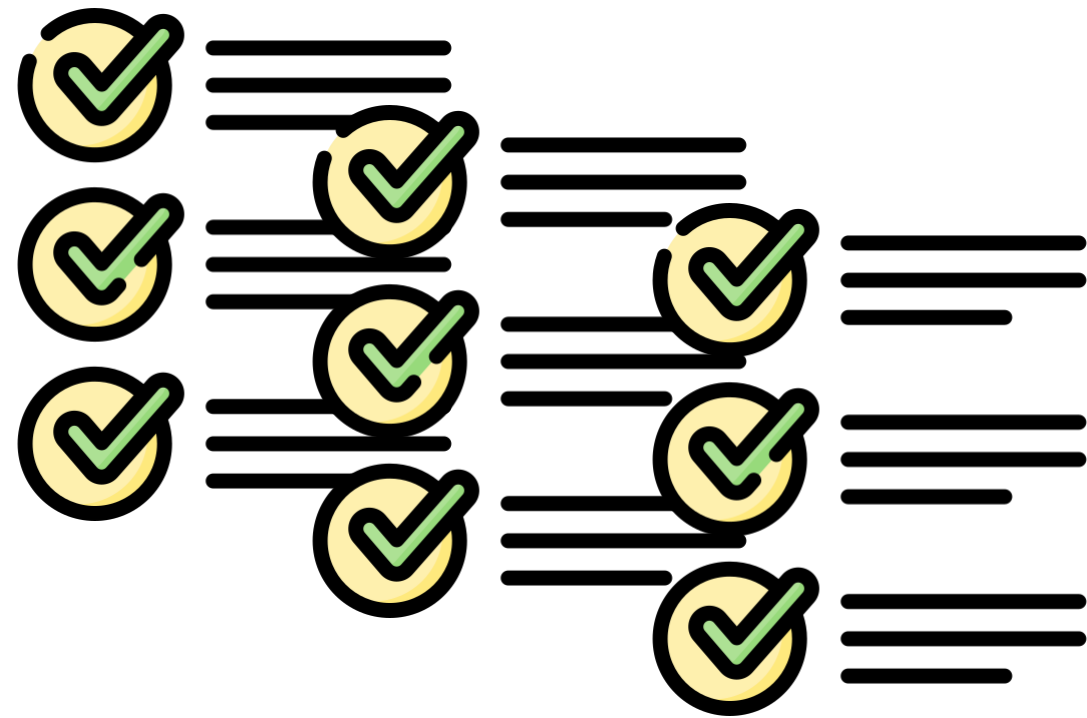
清华大学IRB的成立，将保证我校各项涉及人的生物医学研究均能遵循伦理学规范，最大程度的保护受试者的权利、利益和福祉。

Temporary solutions:

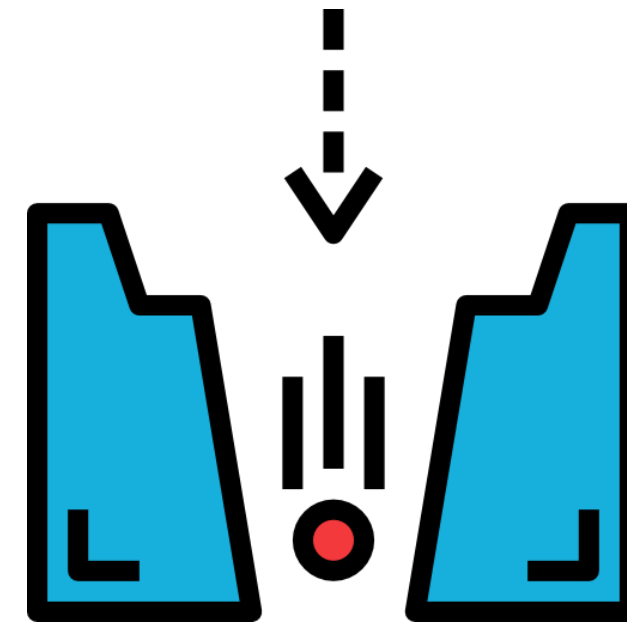
- Apply reviews from the IRB of co-authors' universities
- Consult the legal department of the cooperating companies

Unsolved Questions

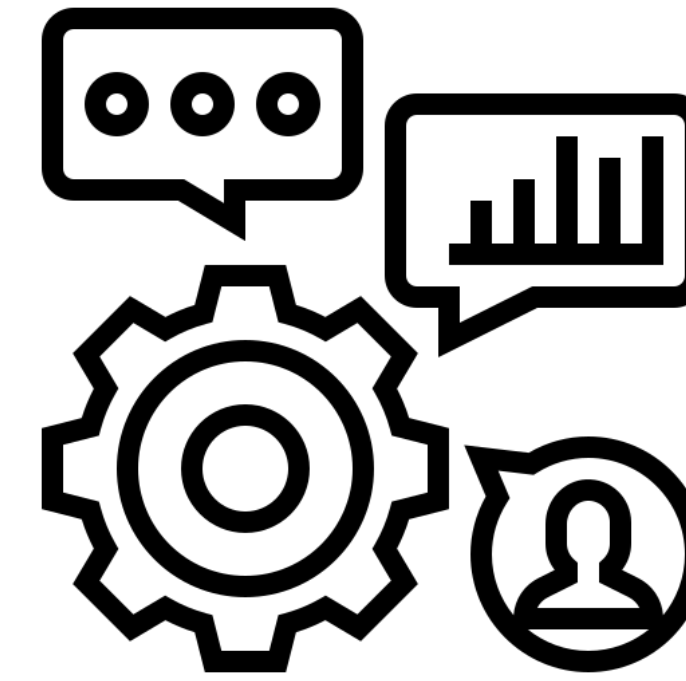
- Lack of authoritative, systematic and **practical** guidance.



Standards



Huge Gap



Practice

How to address?



Courses



Workshops



Handbooks



Summary

- We should get into the habit of considering and discussing ethical issues in our works.
- The best time to think about ethics is before you start the research, followed by now.
- There is a lot of work to be done on ethics compliance for the security community.

Ethical Considerations in Network Security and Network Measurement Research

Thanks.