

# Nathaniel Fruchter

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## Education

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**, CAMBRIDGE, MA – *EXPECTED*, FEBRUARY 2019

S.M Candidate in Technology and Policy. Research assistant in the Internet Policy Research Initiative studying human factors in cybersecurity.

**CARNEGIE MELLON UNIVERSITY**, PITTSBURGH, PA – MAY 2016 – GPA: 3.83 / 4.00

B.S. Decision Science and Science, Technology, and Public Policy. Minor in Human-Computer Interaction. Member of the Science and Humanities Scholars program. Phi Beta Kappa society.

## Research

**MIT INTERNET POLICY RESEARCH INITIATIVE**, GRADUATE RESEARCH ASSISTANT – AUG 2016-PRESENT

- Studying use of data by ISPs to notify consumers of cybersecurity incidents on home networks.
- Studied consumer perceptions of Internet of Things privacy and security using natural language processing and qualitative methods.
- Created web measurement tools to characterize the obfuscated web hosting infrastructure of malicious advertising hosts.
- Co-supervised an undergraduate research assistant project through weekly check-ins, technical mentoring, and monitoring of deliverables to supervisor.

**CARNEGIE MELLON HUMAN-COMPUTER INTERACTION**, RESEARCH ASSISTANT – JAN 2014-MAY 2015

- Created experimental scenarios, methods, and measures for five new and existing studies.
- Contributed to research on mediated decision making, user mental models, network security, and algorithmic management by participating in writing and editing of papers.
- Collaborated with lab members and faculty on quantitative and qualitative data collection by running lab studies, performing statistical analyses, coding data, and developing software.

## Experience

**MIT XPRO PROFESSIONAL DEVELOPMENT**, TEACHING ASSISTANT – OCT 2017 - PRESENT

- Teaching assistant for sessions of *Cybersecurity: Technology, Applications, and Policy* course.
- Answered questions, managed forums, and served as first point of contact for 100+ MITx Professional Education students in cooperation with MIT CSAIL and MITx.

**NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION**, POLICY INTERN – JUN-AUG 2017

- Assisted staff in the Office of Policy Analysis and Development (OPAD) with research and analysis on Internet policy issues as part of NTIA, Department of Commerce.
- Wrote and gave research briefings/memos on a variety of subjects (botnets, IoT, cybersecurity, broadband infrastructure, IETF standards).
- Summarized and created memos on hearings/events related to broadband deployment, broadband infrastructure, and autonomous vehicles.

**CARNEGIE MELLON INST. FOR POLITICS & STRATEGY**, TEACHING ASSISTANT – AUG 2015-DEC 2015

- Assist professor and co-TA within grading and course management tasks for an introductory political science and government course.
- Serve as an academic resource for students by answering questions and running reviews.

## Publications

Fruchter, N. and Bauer, S. Consumer-ISP Security Notification and Remediation Strategies: An International Analysis. Poster at *TPRC'18*.

**Fruchter, N.** and Liccardi, I. Consumer Attitudes Towards Privacy and Security in Home Assistants. In *Proc. ACM CHI 2018 Extended Abstracts*.

Kang, R., Dabbish, L., **Fruchter, N.** and Kiesler, S. “My data just goes everywhere:” User mental models of the Internet and implications for privacy and security. In *Proc. SOUPS 2015*.

**Fruchter, N.**, Miao, H., Stevenson, S., and Balebako, R. Variations in Tracking in Relation to Geographic Location. Presented at *IEEE Workshop on Web 2.0 Security and Privacy, 2015*.

Lee, M.K., **Fruchter, N.** and Dabbish, L. Making decisions from a distance: The impact of technological mediation on riskiness and dehumanization. In *Proc. ACM CSCW 2015*.

## Selected Academic Projects & Coursework

### MIT INSTITUTE FOR DATA, SYSTEMS, AND SOCIETY, MIT POLICY HACKATHON – APRIL 2018

- Helped organize an interdisciplinary hackathon focused on data science for public policy impact with MIT's Institute for Data, Systems, and Society and managed its cybersecurity track. The weekend-long event drew over 100 student and professional attendees.

### MIT/GEORGETOWN LAW COURSEWORK, POLICE GEOLOCATION LEGISLATIVE PROPOSAL – SPRING 2018

- Coauthored model federal legislation and a technical white paper on use and privacy implications of geolocation for law enforcement.
- Written as part of a team of two MIT students and two Georgetown Law students for *6.S978 Privacy Legislation: Law and Technology*, co-taught between the two schools.

### MIT COURSEWORK, FEDERAL DATA BREACH POLICY PROPOSAL – FALL 2017

- Coauthored a report which proposes comprehensive federal data breach legislation for the United States, along with a review of legislative history and relevant incident case studies.
- Written as part of *6.805 Foundations of Information Policy* at MIT.

### GENERAL COURSEWORK, MIT AND CARNEGIE MELLON

- **DECISION AND SOCIAL SCIENCES:** Empirical Research Methods, Uncertain Social Systems, Policy Analysis, Cognitive Psychology, Judicial Politics, Behavioral Decision Making
- **POLICY, LAW, AND ANALYSIS:** Stats for Lab Sciences, Ethics and Policy Issues in Computing, Privacy Policy Law and Technology, Decision Analysis and Decision Support, Foundations of Internet Policy
- **TECHNOLOGY:** Human Centered Software, Interaction Design, Applied Fabrication for HCI

## Skills

**Computing** Excellent knowledge of major operating systems (Windows, Mac OS, Linux), along with Adobe Photoshop and Microsoft Office.

**Programming** Proficient in Python, HTML, JavaScript, and CSS. Working knowledge of PHP, AngularJS, and jQuery. Experienced with mobile webapp development and web scraping/web automation.

**Design** User-centered design methods: rapid prototyping and iteration, user testing, experimental design, low and high-fidelity prototyping; basic graphic and print design.

**Photography** Concert, event, and landscape photography.