

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 perceptions of Internet of Things privacy, 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 - MAY 2018

- 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

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

Publications

PAPERS AND CONFERENCE SUBMISSIONS

Fruchter, N. and Bauer, S. Consumer-ISP Security Notification and Remediation Strategies: An International Analysis. Paper presented at *TPRC'18*, available on [SSRN](#).

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. *Winner: IAPP SOUPS Award.*

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.

POSTERS AND PRESENTATIONS

Fruchter, N. Characterizing Malicious Redirection in the Malvertising Ecosystem. Poster, ACM IMC 2018.

✪ **Fruchter, N.** Security, bots, and governance: civic infrastructure for public participation in the age of the social botnet. Talk at 2018 TMP Graduate Consortium. *Winner: TMP Best Junior Presentation.*

Academic Projects & Coursework

SELECTED PROJECTS

MIT INSTITUTE FOR DATA, SYSTEMS, AND SOCIETY, MIT POLICY HACKATHON – APRIL 2018, OCTOBER 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, 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 MIT and Georgetown Law students for *Privacy Legislation: Law and Technology.*

MIT, 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.

SELECTED COURSEWORK

DECISION AND SOCIAL SCIENCES: Empirical Research Methods, Cognitive Psychology, Judicial Politics, Behavioral Decision Making • **POLICY, LAW, AND ANALYSIS:** Ethics and Policy Issues in Computing, Privacy Policy Law and Technology, Decision Analysis and Decision Support, Policy Analysis • **TECHNOLOGY:** Human Centered Software, Interaction Design, Applied Fabrication

Skills

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

Programming Proficient in Python, HTML/JavaScript/CSS. Working knowledge of PHP, Angular, jQuery. Mobile webapp development. Web scraping, automation, and web measurement.

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

Photography Concert, event, landscape photography. Basic portraiture.