

Report on Activities 2015–2016

# Data&Society

# Report on Activities

2015-2016



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DATA & SOCIETY IS A RESEARCH INSTITUTE IN NEW YORK CITY THAT IS FOCUSED ON THE SOCIAL AND CULTURAL ISSUES ARISING FROM DATA-CENTRIC TECHNOLOGICAL DEVELOPMENT.



The issues that Data & Society seeks to address are complex. The same innovative technologies and sociotechnical practices that are reconfiguring society – enabling novel modes of interaction, new opportunities for knowledge, and disruptive business paradigms – can be abused to invade people's privacy, provide new tools of discrimination, and harm individuals and communities.

To provide frameworks that can help society address emergent tensions, Data & Society is committed to identifying thorny issues at the intersection of technology and society, providing and encouraging research that can ground informed, evidence-based public debates, and building a network of researchers and practitioners who can anticipate issues and offer insight and direction.

Data & Society's programs bring together different perspectives, research methods, and practices. We weave together researchers, entrepreneurs, activists, policy creators, journalists, geeks, and public intellectuals. We see tremendous reciprocal benefits for network building and research when they are combined.

The work and well-being of Data & Society is strengthened by the diversity of our network and our differences in background, culture, experience, and much more. We are committed to making certain that a wide array of perspectives are heard and that our research is publicly available.

Data & Society was born in stages, in a trio of launches: a call for our inaugural class of fellows; the Social, Cultural & Ethical Dimensions of "Big Data" event; and an official launch conference and party in October 2014. We grew rapidly in our first eighteen months, establishing our original research initiatives and network-building programs, producing a range of large and small events, and moving into our head-quarters in New York's Flatiron District.

# YEAR TWO OVERVIEW

"We at Data & Society are trying to wrap our heads around the implications of emerging tech and the way it's shaping and being shaped by society. Our collective hope is that, by sharing out what we learn, we can together move beyond conversations based in hype and fear and contend with the hard questions and tradeoffs ahead."

—danah boyd, Founder and President



Data & Society's second year, 2015–16, has been one of steady growth. We welcomed a fabulous new class of fellows (see page 48), further developed our in-house research team, expanded our groups of advisors and affiliates, and brought on staff to help realize our transition from a startup-like outfit to a sustainable organization.

In February 2016, Janet Haven joined Data & Society as our first director of programs. She is playing a key role in developing and refining our programs and overall strategy.

The Institute has grown in both scale and scope.

Programs such as our speaker series, Databites (see page 42), and our Small Group Sessions (see page 36) continue to connect the Data & Society community with the bourgeoning field of researchers, technologists, advocates, and others grappling with the effects of data-centric technological development.

Our research agenda has become more expansive and ambitious, and more than twenty projects now animate areas of inquiry into: Fairness and Accountability in Machine Learning; Network Infrastructures and the Environment; Algorithms and Publics; the Future of Labor in a Data-Centric Society; Data, Human Rights & Human Security; Enabling Connected Learning; Ethics; Privacy; Civil Rights and Fairness; and Automation.

Through all of our work, we seek to inform and develop frames for discussion of the complex issues arising from deployment and, increasingly, reliance on data-intensive technologies across a range of sectors. What are the tensions and tradeoffs? What evidence do we need to ground broader conversations about the way emerging technologies and practices are reconfiguring society?

A few highlights from the bustling year recapped in this report:

- For a second year, Data & Society co-hosted the Data & Civil Rights conference with the Leadership Conference on Civil and Human Rights and Upturn. This year's conference, A New Era of Policing and Justice (see page 22), was a deep dive into the hard questions around the effects of new technologies - body cameras, predictive algorithms, etc. - on policing and criminal justice.
- We developed a new project, Algorithms and Publics (see page 21), to investigate the way technology companies are engineering a public sphere differently from past news media enterprises. How is the public sphere controlled and manipulated? What could be done to support the ideal of an informed and engaged citizenry?
- The Council for Big Data, Ethics, and Society (see page 35) released a white paper consolidating two years of work on the conflicts between big data research methods and existing ethical norms. Should big data methods be exempted from those norms? Pushed into them? Are entirely new paradigms needed? The white paper provides recommendations and identifies areas for further research.
- As with our launch party in 2014, the reception for our spring conference, Practice and Challenge (see page 45), featured an art program intended to spark conversation and encourage contemplation of surveillance technology, biometrics, systems of classification, and beyond. We continue to look for ways to engage artists in our programs and research.
- In addition to publishing widely in academic and non-academic fora (see page 54), the Data & Society community was frequently consulted by media, and our work and people appeared in the New York Times, Washington Post, Guardian, Wall Street Journal, LA Times, Reuters, Bloomberg, Fusion, and many, many more outlets. We are actively building our capacity to help journalists, as well as other organizations and decision-makers, ground their understanding of the emerging issues we focus on.



By design, our activities draw from different parts of our network, push and pull, complicate and inspire one another. As in our first year, the dynamic interconnections between our research, programs, and community are the point. We remain committed to creating cross-disciplinary insights and provocations along the "&" in Data & Society.

"The work that is happening at Data & Society is critical for helping ground important conversations happening all around us. What you see here is a love of technology and a commitment to make sure the world is a better place. I'm looking forward to helping our research mature and our network grow and am ecstatic by the passion that is at the core of our community."—danah boyd

# **Thanks**

Data & Society benefits from the guidance of advisors and friends from a diversity of fields and enterprises. We're grateful for their ongoing support.

We are also grateful for the unrestricted gift from Microsoft that made Data & Society possible and for the trust and engagement of all the funders who support our projects, events, and more. They are listed at the end of this report.

# Research

Research is at the core of the Data & Society project. We believe that research has the power to inform, to influence, and to impact public debate, and we are building out the Data & Society research agenda with those goals in mind. Research at Data & Society is often shaped by cross-cutting themes, many of which are taken up across multiple projects, some of which once existed as projects in-and-of themselves. Current themes that shape much of the work at Data & Society are: ethics, automation, civil rights, and privacy.







#### **Ethics**

We seek to understand the challenges, disconnects, and opportunities for ethical research and practice in "big data" and artificial intelligence and to infuse all of our work with awareness of ethical concerns.

# Civil Rights and Fairness

Across our projects, we attend to the social justice issues that are raised by new technologies in various sectors as well as the social, technical, and legal remedies that might better enable fairness and combat discrimination.

#### Automation

A number of our research topics are entangled in the emergence of intelligent systems that exercise judgment and control in lieu of human management.

#### Privacy

Much of Data & Society's work involves privacy, bringing together diverse methods and contexts for understanding the interaction between settled and novel conceptions of privacy and how privacy can be protected — with an emphasis on the ways privacy is transformed or implicated in different populations and practices.

# **FAIRNESS AND ACCOUNTABILITY IN** MACHINE LEARNING

What kinds of technical interventions could be developed to address harmful biases in the output of systems that use machine learning, neural networks, and other forms of artificial intelligence? What are the research questions that will meaningfully bring together computer scientists, social scientists, and practitioners?

SORELLE FRIEDLER, SOLON BAROCAS, SURYA MATTU, DANAH BOYD



#### Related Project

#### Could Your Data Discriminate?

Developing an online tool/learning platform where the public can upload data for analysis by a machine learning algorithm that analyzes their data and determines if it can accurately predict a person's race or gender.

SORELLE FRIEDLER, SURYA MATTU, WILNEIDA NEGRÓN, AND SURESH VENKATASUBRAMANIAN (UNIVERSITY OF UTAH)

# **NETWORK INFRASTRUCTURES** AND THE **ENVIRONMENT**

What (mostly invisible) material systems undergird "the cloud" and "big data?" How do the physical layers, protocols, software code, and platforms of the Internet affect the environment and natural resources? What should "green code" or "green product development" look like?

INGRID BURRINGTON, EMILY KELLER, SURYA MATTU

# **ALGORITHMS** AND PUBLICS

Who controls the public sphere in an era of algorithms? How is the public sphere currently understood, controlled, and manipulated, and how do we place it in historical context? What interventions should be considered to support the ideal of an informed and engaged citizenry?

ROBYN CAPLAN, DANAH BOYD, JANET HAVEN

#### Related Project

#### Networks Land

Teaching people what the Internet is made of by creating educational tools that will help users connect what they see on screens to the systems and infrastructure that make the Internet possible.

INGRID BURRINGTON, SURYA MATTU

# THE FUTURE OF LABOR IN A DATA-CENTRIC SOCIETY

We are investigating emergent disruptions in the labor force as a result of datacentric technological development, with a special focus on structural inequalities, including the ways data collection is used as an economic tool in low-wage labor markets. Research sites include Uber, the gig economy, retail, trucking, journalism, and criminal justice.

# DATA, HUMAN RIGHTS & HUMAN SECURITY

Our human rights initiative explores the way in which data-centric, networked technologies can be used responsibly to assist people in need, prevent abuse, and protect from harm in humanitarian and human rights contexts, including labor trafficking and populations displaced by conflict.

#### Related Projects

#### Understanding Privacy as a Means of Economic Redistribution

Investigating how low-SES populations understand and appeal to privacy in order to protect their economic interests in low-wage labor markets.

KAREN LEVY, SOLON BAROCAS, ALEXANDRA MATEESCU

#### Uber and its drivers

Exploring the labor implications of platforms, Uber specifically, that automate management and coordination of workers.

**ALEX ROSENBLAT** 

#### Related Project

#### The Digital Passage

Asking questions about the intersection of networked technologies and the ongoing refugee crisis in the Middle East and Europe.

MARK LATONERO

# **ENABLING CONNECTED LEARNING**

This initiative aims to map and respond to the ways in which existing and proposed government policies that address new educational technologies and ecosystems affect connected learning initiatives against the backdrop of new concerns over student data, youth privacy, and education reform. Core topics include: personalized learning and student data privacy policies.

MONICA BULGER, MIKAELA PITCAN, CLAIRE FONTAINE, ALEXANDRA MATEESCU, ELANA ZEIDE







#### Council for Big Data, Ethics, and Society

Bringing together researchers from diverse disciplines to address issues such as security, privacy, equality, and access in order to help guard against the repetition of known mistakes and inadequate preparation in big data research initiatives.

DANAH BOYD, GEOFFREY BOWKER, KATE CRAWFORD, HELEN NISSENBAUM, JACOB METCALF, EMILY KELLER, ED FELTEN, ALONDRA NELSON, SOLON BAROCAS, SEETA PEÑA GANGADHARAN

#### Supporting Ethics in Data Research

Examining the role of research librarians in assisting computer science researchers as they navigate emerging issues of privacy, ethics, and equitable access to data at different phases of the research process.

BONNIE TIJERINA, EMILY KELLER, DANAH BOYD

#### Digital Privacy & Data Literacy

Increasing digital privacy literacy amongst library staff, working with privacy technologists to build simple tools and guides, and creating a network of support for libraries across the country.

BONNIE TIJERINA, SEETA PEÑA GANGADHARAN

#### **Reframing Privacy**

Understanding the language and framing of privacy issues by low-SES youth who may not use the terms or the rubrics of mainstream debates.

DANAH BOYD, CLAIRE FONTAINE, ALICE MARWICK

#### Survey Research into the Privacy and Security **Experiences of Low-SES Populations**

Making a fundamental contribution to understanding the everyday privacy- and security-related behaviors of low-SES adults.

MARY MADDEN, CLAIRE FONTAINE





#### Measuring Cyberstalking and Digital Domestic Abuse Across the Lifespan

Conducting a nationally representative survey of 3,000 Americans to quantify the prevalence of cyberstalking and digital domestic violence.

AMANDA LENHART, MICHELE YBARRA (CENTER FOR INNOVATIVE PUBLIC HEALTH RESEARCH)

#### Policing and Criminal Justice

Grappling with the technical, social, political, and economic tensions that emerge as new technologies are introduced into policing and other facets of criminal justice.

ALEXANDRA MATEESCU, ALEX ROSENBLAT, ANIKA COLLIER NAVAROLI, ANGÈLE CHRISTIN, SORELLE FRIEDLER, WILNEIDA NEGRÓN

#### Intelligence & Autonomy

Developing cross-sector legal, technical, societal, and economic principles to secure the public interest in the emerging ecosystem of automation and artificial intelligence.

TIM HWANG, MADELEINE CLARE ELISH, **ALEX ROSENBLAT** 

#### What Lenders See

Exploring the growing relationship between the technology sector and finance.

MARTHA POON, INGRID BURRINGTON

#### **Empowering the Next Generation** of Civic Leaders

Conducting an introductory technology and professional skills boot camp for undergraduate students who are placed into internships with New York City Community Boards.

#### **NOEL HIDALGO**

#### Understanding and Evaluating Health Technologies for Patients with Chronic Multiple Conditions

Providing criteria by which to evaluate promising digital health applications, with an eye toward integration into clinical decision making and disease management.

DIANA FREED

All of Data & Society's activities contain elements of exploration, and exploratory and pilot research is one path through which we develop longer-term research initiatives. Ideas might emerge from internal workshops or insights produced by existing projects or conversations with visitors to the Institute or simple curiosity. Here are three promising explorations that got underway in 2015–16.

# NETWORK INFRASTRUCTURES AND THE ENVIRONMENT

The expansion of cloud services providing endless storage, streaming, and access to a massive (and growing) number of digital media and "big data" elicits images of unlimited natural resources. Yet the totality of data centers, infrastructure, and devices that support these services utilize more electricity than entire nations, expel CO2 emissions comparable to the airline sector, and draw on rivers and lakes to cool thousands of servers, causing unknown impacts to natural water bodies. Advocates for smart cities, open data, and sustainability champion the growth of human and environmental data, such as climate models, to gain knowledge and improve efficiencies. However, the overall environmental impact of data collection, computation, and aggregation is a nascent conversation, even among experts.

A small team at Data & Society has begun asking questions about the environmental impact of cloud-based

services. Artist-in-residence Ingrid Burrington and fellow Surya Mattu's curriculum for teaching kids about Internet infrastructure, Networks Land (see page 33), was one entry point. danah boyd's service on the U.S. Commerce Department's Data Advisory Council was another source of questions and puzzles about data infrastructure. And project coordinator Emily Keller's interest in sustainability issues added to the mix.

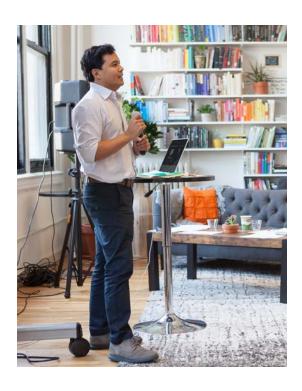
This early-stage inquiry is exploring the contrast between data preservation and minimization goals; social norms against deletion; the potential for LEED certified code or changes in product design; the layers and cost of abstraction; computational complexity and payment structures; energy intensive functions of Bitcoin; the use of high resolution media on small screens; and the potential for expiration dates or cold storage of inactive cloud data.

# UNDERSTANDING AND **EVALUATING HEALTH TECHNOLOGIES** FOR PATIENTS WITH CHRONIC MULTIPLE **CONDITIONS**

Digital health technology has the potential to support and improve disease self-management, care coordination, and medication management for patients with multiple chronic conditions. But the digital health technology space is crowded with widely varying apps and platforms.

With funding from the United Hospital Fund, Data & Society fellow Diana Freed began research for a report to provide some baseline understandings of the space: criteria by which to evaluate and highlight promising applications and the measures relevant to identifying tools. Her report will also address how these tools can be evaluated and integrated successfully for clinical decision making and disease management. The primary audience for this work is hospitals and medical institutions trying to make sense of the growing landscape of assistive digital health technology.

UNDERSTANDING AND EVALUATING HEALTH TECHNOLOGIES FOR PATIENTS WITH CHRONIC MULTIPLE CONDITIONS IS SUPPORTED BY THE UNITED HOSPITAL FUND.



## THE DIGITAL PASSAGE

Building on the work of the "Data, Human Rights & Human Security" primer, written with research analyst Zachary Gold, and on his prior work on trafficking, fellow Mark Latonero started digging into the data, technology, and human rights dynamics of the refugee crisis unfolding in the Mediterranean, considering the digital infrastructure, beyond simply the mobile phone, that is enabling the movement of refugees. Field research in Eastern Europe contributed to initial essays about the role technology is playing in the current crisis, as well as a deeper paper with Paula Kift (NYU). The Data, Human Rights & Human Security initiative will continue to pursue the issues of logistics, tracking, privacy, and integration being raised by "the digital passage."

Two projects launched in the last year (Algorithms and Publics; Understanding Privacy as a Means of Economic Redistribution) and three existing initiatives (Data & Civil Rights; Enabling Connected Learning; Intelligence & Autonomy) were among Data & Society's more extensive areas of investigation in 2015–16.



# **ALGORITHMS** AND PUBLICS

There is a recognizable value in democratic societies having mechanisms by which the public can come together to discuss the issues of the day, to identify problems and propose solutions. Historically, the news media - print, radio, and television - has provided the spaces where competing narratives are publicly debated. Today, technology companies are the dominant curators of information and their engineering of a public sphere is significantly different than that of news media enterprises, even news media organizations who are beholden to state or corporate interests.

The goal of this project — driven by research analyst Robyn Caplan and danah boyd — is to map how the public sphere is currently understood, controlled, and manipulated in order to spark a richer conversation about what interventions should be considered to support the ideal of an informed and engaged citizenry.

This project is also a mapping of existing concerns and research that is already underway in this field and has enlisted the advice and aid of a group of scholars who are engaged in this area.

On February 26, 2016, Data & Society held a workshop, Who Controls the Public Sphere in an Era of Algorithms?, to drill into the assumptions, values, and tensions at the core of growing concerns about the control and shaping of the public sphere in an era of algorithms. Case Studies and a pair of white papers (see Selected Output, page 56) grounded the workshop conversation and provided a foundation for the next phases of the project, which will, among other things, begin to consider accountability and possible interventions such as audits.

In the spring, strong media interest in a story about Facebook allegedly suppressing conservative stories in its Newsfeed provided an opportunity for Robyn Caplan and team to share insights from the project with a broader audience through, for example, the New York Times coverage of the controversy.



ALGORITHMS AND PUBLICS IS SUPPORTED BY OPEN SOCIETY FOUNDATIONS AND THE JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION.

# **DATA & CIVIL RIGHTS:** A NEW ERA OF POLICING AND JUSTICE

Technologies being developed for use in policing and criminal justice raise new questions about civil rights in a data-soaked world. From body-worn cameras to biometrics, from social media as a site of evidence to predictive policing, from algorithms for risk assessment to open data about policing — there are numerous questions about when, how, and if these tools can meaningfully serve the communities that police swear to protect, as well as strengthen the ability of people to seek justice in a fair and equitable way. All too often, how these technologies are designed differs from how they're deployed; their value is affected by the policies and culture that surround implementation, and yet deployments are often ill-assessed.

To better understand how new technologies are reconfiguring policing and criminal justice, Data & Society teamed up with The Leadership Conference on Civil and Human Rights and Upturn to host the second conference on Data & Civil Rights.

A New Era of Policing and Justice gathered civil rights leaders, law enforcement representatives, corporate vendors, activists, government agencies, and technology researchers to grapple with what is known and unknown and map out differences of opinion and gaps in information. The conference was by-invitation and held under the Chatham House Rule, with small groups brought together to dive into hard issues and discuss them frankly in a workshop-style format.









Judith Brown Dianis

Data & Society developed a substantial set of materials for the conference, drawing on expertise from across our network, with researchers (Robyn Caplan, Zachary Gold, Alexandra Mateescu, Alex Rosenblat), fellows (Angèle Christin), affiliates (Ifeoma Ajunwa, Desmond Patton), and collaborators (Sarah Brayne, Douglas Brunton) all contributing to write-ups from the workshops and to the preparatory materials and primers that provided a basis for conversation. Primers surveyed the research literature and the rhetoric and framing around key policing and criminal justice technologies.

Criminal Justice and Civil Rights overview

Police Body-Worn Cameras

Social Media Surveillance and Law EnforcementBiometrics

**Predictive Policing** 

Courts and Predictive Algorithms

Open Data



Criminal justice remains an area of special concern for Data & Society's cross-cutting work around civil rights and fairness and the social justice issues that are raised by new technologies. In 2015-16, fellows Angèle Christin, Surya Mattu, and Sorelle Friedler delved into the use of scoring and predictive algorithms in courts and beyond, and Data & Society researchers continued to publish on police bodyworn cameras and to engage with the questions around open police data and predictive policing.

PARTNERS INCLUDED THE CENTER FOR MEDIA JUSTICE, CENTER FOR POLICING EQUITY, ACLU, OPEN TECHNOLOGY INSTITUTE, AND POLICE EXECUTIVE RESEARCH FORUM. A NEW ERA OF POLICING AND JUSTICE WAS SUPPORTED BY THE FORD FOUNDATION, OPEN SOCIETY FOUNDATIONS, AND THE JOHN S. AND JAMES L. KNIGHT FOUNDATION.

# **ENABLING** CONNECTED LEARNING

## What is the value of data in education and learning?

As young people embrace technology to learn, play, and socialize, the boundaries between education, the home, and society get increasingly blurred. New concerns have emerged over student data, youth privacy, and educational reform. Federal and state policies focused on children, education, and technology influence what learning initiatives are possible. Privacy, safety, and security all shape the trustworthiness of different digital platforms and learning ecosystems, even as data can be used to enable new forms of learning and new opportunities for advancing education. While these issues are publicly debated and politically fraught, research to ground these conversations is limited.

The goal of Enabling Connected Learning is to better understand exactly how existing and proposed policies affect connected learning initiatives and where and when student data can and should be used. The team is working with technology developers, policymakers, and researchers to identify and address issues that hinder efforts to empower young people and advance their learning opportunities.

The Enabling Connected Learning team (researchers Monica Bulger, Mikaela Pitcan, Claire Fontaine, Alexandra Mateescu, and affiliate Elana Zeide) began this year to publish perspectives and provocations on student data issues surfaced by their ongoing research — for example, "Does Data-Driven Learning Improve Equity?" by Mikaela Pitcan. Later this year, they will begin releasing a set of primers that collect and synthesize knowledge around contentious areas, such as "personalized learning," where technology and learning are intertwined.

**ENABLING CONNECTED LEARNING IS SUPPORTED** BY THE JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION.



# UNDERSTANDING PRIVACY AS A MEANS OF ECONOMIC REDISTRIBUTION

In the low-wage workplace, novel forms of data collection and analysis can operate to entrench inequality and limit workers' economic power.

How can and do the working poor mobilize privacy to shape information flows, in an effort to limit these negative redistributive effects?

Fellow Karen Levy and affiliate Solon Barocas are investigating how low-socioeconomic status (low-SES) populations understand and appeal to privacy in order to protect their economic interests in low-wage labor markets.

With the assistance of research analyst Alexandra Mateescu, Karen and Solon are patiently assessing these practices in three work contexts — the impacts of agricultural data collection on small farmers; the use of data-intensive scheduling systems for retail management; and the use of low-wage labor to train production-process robotic systems. This focused research will help to inform our other work around surveillance, the future of labor, and autonomy and power.

UNDERSTANDING PRIVACY AS A MEANS OF **ECONOMIC REDISTRIBUTION IS SUPPORTED BY** THE DIGITAL TRUST FOUNDATION.

# **INTELLIGENCE & AUTONOMY**

Data, automation, and algorithms are increasingly being combined to create intelligent systems, software that exercises judgment and control in lieu of human management. While these systems are often not by themselves novel, recent years have seen the emergence and mass implementation of these technologies in a variety of critical arenas within society.

This includes the use of intelligent systems in transportation, medicine, warfare, finance, as well as in the home.

In light of these developments, there remain open and important questions as to how these systems should be regulated, if at all, and how regulatory regimes could protect consumers and the public good while also enriching opportunities for innovation.

Although key actors in the public and private sectors are beginning to turn to these questions, the dominant approach in the space has been to treat intelligent systems where they appear as unique, industry-specific issues.

Intelligence & Autonomy seeks to surface general principles applicable across sectors to secure the public interest in this new technological ecosystem. The project's objective is to create frameworks that will enable more effective policymaking and encourage more informed public debate.

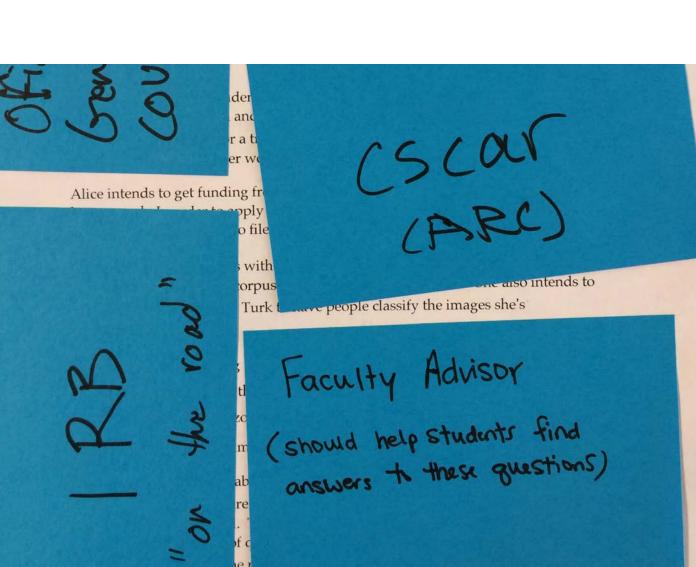
In its second year, researchers Tim Hwang and Madeleine Elish published widely on themes emerging from their work, including, to name a few: the way the "human in the loop" is saddled with liability in the failure of an automated system; the market-making engineering of supply and demand in platforms like Uber; cultural perceptions of the role of humans in automated and robotic systems; and the trend toward automated politics represented by political bots.



Questions about automated processes and the relation between intelligent systems and humans run through many other Data & Society projects, e.g., Algorithms and Publics (see page 21). In the year ahead Intellgence & Autonomy will release a cluster of culminating documents that will also helpfully inform our efforts to understand the way technology is reconfiguring labor, education, criminal justice, and more.

**INTELLIGENCE & AUTONOMY IS SUPPORTED BY** THE JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION.

Field work plays an essential role in empirically grounding Data & Society's research and in helping us to understand the views of the range of actors involved in our areas of interest. In 2015–16, five of our projects placed interviews, informants, and surveys at the center of their approaches.



# SUPPORTING ETHICS IN DATA RESEARCH

New and complex data sets raise challenging ethical questions about risk to individuals that are not sufficiently covered by computer science training, ethics codes, or Institutional Review Boards.

The use of publicly available, corporate, and government datasets may reveal human practices, behaviors, and interactions in unintended ways, creating the need for new kinds of ethical support.

This project examines the role of research librarians in assisting computer science researchers as they navigate emerging issues of privacy, ethics, and equitable access to data at different phases of the research process.



This project builds on the emerging support systems, including assistance from the research library, for computer science researchers that has resulted from Data Management Plans required by federal funders. Drawing on their data management skills and knowledge of information ethics, academic librarians may be well poised to act as partners to computer science and engineering researchers throughout the research process, including the use of third-party data.

With support from the Alfred P. Sloan Foundation, danah boyd, researcher Bonnie Tijerina, and project coordinator Emily Keller have conducted interviews and campus visits with computer science researchers and librarians at eight U.S. universities to examine the role of research librarians in assisting technical researchers as they navigate emerging issues of privacy, ethics, and equitable access to data at different phases of the research process. Initial overviews of what they learned have been published in EDUCAUSE and presented at the Coalition for Networked Information Fall 2015 meeting and other events. A final report from this work will be released later this year.

With the Council for Big Data, Ethics, and Society (a collaboration with the National Science Foundation; see page 35), Supporting Ethics in Data Research constitutes Data & Society's initiative explicitly addressed to issues ethics and research methods, but having these ethics-focused projects under our roof has also helped us to infuse all of our work with awareness of ethical concerns.

SUPPORTING ETHICS IN DATA RESEARCH IS SUPPORTED BY THE ALFRED P. SLOANE FOUNDATION.

# **UBER AND ITS DRIVERS**

Researcher Alex Rosenblat pursued nine months of research interviewing Uber drivers and exploring driver forums online. With Luke Stark (NYU), she released a working paper based on this work, "Uber's Drivers: Information Asymmetries and Control in Dynamic Work," which will be published this year by the International Journal of Communication. Alex has continued to travel and interview Uber and other rideshare drivers extensively, posting notes from the field and publishing in places like the Harvard Business Review on algorithmic control and management and workers' experiences with new platforms for organizing labor. Public curiosity about the workings of Uber, in particular, has driven significant media attention to Alex's research and our larger initiative around the future of labor. She has been cited in more than two dozen news articles over the last year.





# REFRAMING PRIVACY

When policymakers, advocates, educators, and technologists invoke the term "privacy" in an effort to protect lowstatus individuals, are they using frames that resonate with those communities?

If not, are different groups using different language to describe the same experiences and concerns, or are we talking about different concerns altogether?

The goal of danah boyd, affiliate Alice Marwick, and research analyst Claire Fontaine's study is to better understand the language and framing of privacy issues by low-socioeconomic status youth who may not use the terms or the rubrics of mainstream debates. Through informant interviews, as well as other methods, this project aims to fill a need for empirical data about cultural frames and expectations, in order to build more effective policies, technologies, and educational interventions.

REFRAMING PRIVACY IS SUPPORTED BY A GRANT FROM THE DIGITAL TRUST FOUNDATION.

# **MEASURING CYBERSTALKING** AND DIGITAL **DOMESTIC ABUSE ACROSS THE LIFESPAN**

## How is abuse perpetrated and experienced through technology, particularly across age groups?

Led by researcher Amanda Lenhart and Michele Ybarra of the Center for Innovative Public Health Research, this Digital Trust Foundation-supported project is conducting a nationally representative landline and mobile phone survey of Americans ages 15 years and older to quantify the prevalence of cyberstalking and digital domestic violence, including cyber-exploitation. Recognizing that witnessing abuse can also have a negative impact, the team is also investigating the extent to which people witness others' abusive behavior online. The survey will also examine how online privacy behavior may relate to and even protect against online abuse.

MEASURING CYBERSTALKING AND DIGITAL DOMESTIC ABUSE ACROSS THE LIFESPAN IS SUPPORTED BY A GRANT FROM THE DIGITAL TRUST FOUNDATION.

# SURVEY RESEARCH INTO THE PRIVACY AND SECURITY **EXPERIENCES OF** LOW-SES POPULATIONS

Researcher Mary Madden is helming a robust, nationally representative survey of American adults that includes an oversample of low-socioeconomic status respondents. The survey will make a fundamental contribution to understanding the everyday privacy and security-related behaviors of low-SES adults and seek to answer key questions that can ground the policy conversations and debates about privacy and security in the digital age, including but by no means limited to:

# Where do privacy and information security-related practices "fit in" to the everyday lives of low-SES adults?

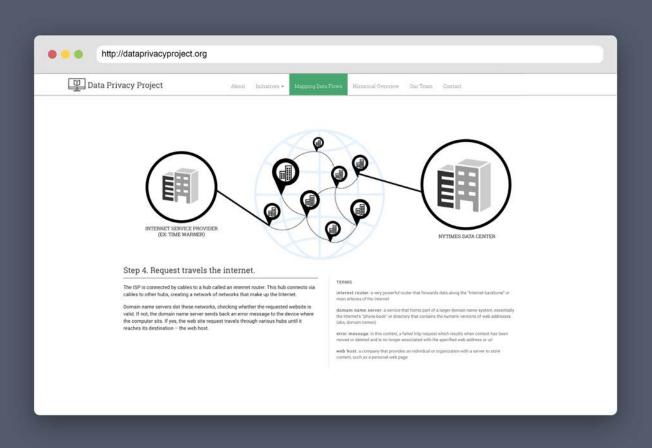
What are the other priorities and concerns that they are trying to balance when making technology-related decisions in a typical day?

What non-technical steps do low-SES adults take to create some level of privacy and trust in spaces where and when they want it? To what extent do they value more public engagement in certain environments?

How — if at all — have negative experiences with identity theft or reputational harms affected this group differently than adults in higher-SES groups?

SURVEY RESEARCH INTO THE PRIVACY AND SECURITY EXPERIENCES OF LOW-SES POPULATIONS IS SUPPORTED BY A GRANT FROM THE DIGITAL TRUST FOUNDATION.

In 2015–16, we increased the number of efforts at Data & Society to develop curricula for helping diverse groups understand and engage practically with data-intensive technology and the social issues it raises. Translating knowledge from research — technical and otherwise — into functional resources for the world outside Data & Society is an important institutional objective, and we anticipate expanding our curriculum and education activities in the future.



# **DIGITAL PRIVACY &** DATA LITERACY

Libraries have served a critical role in providing free access to the web, especially to underserved populations.

Librarians, policymakers, and other advocates often point to key challenges of accessibility, speed, and affordability, but too often missing from the conversation on digital inclusion is a host of critically important privacy considerations.

The extent of government surveillance programs, differential treatment of online consumers (data profiling), and the need for protection of sensitive personal data have ramped up the urgency of addressing these matters.

The Digital Privacy & Data Literacy project is a training program engaging more than six hundred information and library professionals in the New York metropolitan area. Building from and in a parallel with this New York area-focused effort, the project is building a set of online resources and learning modules. The first two modules — on the history and evolving role of the library in ensuring patron privacy and the basics of how information moves around the Internet — were released this year, with production help from media producer Angie Waller.

THE PROJECT INVOLVES DATA & SOCIETY, SPECIFICALLY RESEARCHER BONNIE TIJERINA, THE BROOKLYN PUBLIC LIBRARY, METRO, AND NEW AMERICA'S OPEN TECHNOLOGY INSTITUTE AND IS SUPPORTED BY THE KNIGHT PROTOTYPE FUND AND THE INSTITUTE OF MUSEUM & LIBRARY SERVICES.







# **EMPOWERING THE NEXT GENERATION** OF CIVIC LEADERS

New York City's fifty-nine Community Boards are an important part of local oversight of municipal service delivery. However, because each one is run by two full time employees and volunteer representatives, they struggle to engage effectively with the demands of the digital landscape.

Fellow Noel Hidalgo has been pioneering a program over the last year that combines didactic open data advocacy with local government use. The program offers a curriculum designed to enhance the basic digital literacy skills of Community Board Members and develop a new generation's civic technology skills. Undergraduate CUNY Service Corp Fellows, selected for competency in a variety of relevant skills, were placed into participating Manhattan Community Boards. They went through a boot camp to develop their technological and professionals skills - and to inspire youth participation in New York City government. For Community Board members, the program provided mentorship to improve three public participation metrics: engagement, events, and membership.

The goal is for the program to eventually include all fifty-nine Community Boards and all fifty-one City Council Offices. Outside of New York City, the program is intended to serve as an example of how data, technology, and youth leadership can be used to improve civic engagement for the 21st century.

EMPOWERING THE NEXT GENERATION OF CIVIC LEADERS WAS DEVELOPED IN PARTNERSHIP WITH MANHATTAN BOROUGH PRESIDENT GALE A. BREWER (AUTHOR AND PRIMARY SPONSOR OF NEW YORK CITY'S OPEN DATA LAW, LOCAL LAW 11 OF 2012).



#### **NFTWORKS LAND**

Artist-in-residence Ingrid Burrington and fellow Surya Mattu teamed up on a curriculum and toolkit of digital and analog resources for teaching people about the physical realities, hardware, and power dynamics of the Internet. The work was supported by the Knight Prototype Fund.

Networks Land was the result — a collection of educational activities and material explaining how the internet works, at levels that generally don't get thoroughly covered in introductions to the internet. The activities and material were geared primarily to 11-14 year olds and involve mainly physical objects, field trips, and games.

In parallel to her work on Networks Land, Ingrid published a thoughtful series of essays in The Atlantic, "Beneath the Cloud," that traverses the landscape of the Internet's infrastructure: fiber-optic cables, utility companies, data centers, land use regulations, and beyond.

NETWORKS LAND IS SUPPORTED BY THE KNIGHT PROTOTYPE FUND.

# COULD YOUR DATA **DISCRIMINATE?**

Even as explicit discrimination becomes less in the US, implicit discrimination remains widespread. It exists in the form of laws or policies that are seemingly color- or gender-blind, but in practice discriminate often unintentionally — against women or minorities.

The emergence of data-driven decision making, predictive analytics, machine-learning algorithms, and data journalism have automated these discriminatory decision making patterns, thereby, introducing new concerns regarding data's potential discriminatory effects.

Fellows Sorelle Friedler, Surya Mattu, and Wilneida Negrón, with Suresh Venkatasubramanian (University of Utah), are building a website that offers an analytic tool to provide users with the ability to test if their data has discriminatory implications — and to teach them methods for how to reduce this bias. The site will also serve as a learning platform, providing a searchable database of publicly available datasets so users can run their own experiments and explore more about which correlated factors can contribute to bias creep. Media producer Angie Waller is assisting the team in building out the site, which will be launched later this year.

COULD YOUR DATA DISCRIMINATE? IS SUP-PORTED BY THE KNIGHT PROTOTYPE FUND. Hosting — bringing groups and perspectives together — remains one of the foundational modes through which Data & Society strengthens its research (see, for example, A New Era of Policing and Justice, page 22, and Who Controls the Public Sphere in an Era of Algorithms? page 13). Organizing events also encourages the growth of both the Institutes's network and the broader field we're invested in helping to build. In addition to our speaker series, weekly social hour, and spring conference and reception (see Connections, page 40), we hosted and contributed to a wide variety of gatherings in 2015–16.



# **COUNCIL FOR** BIG DATA, ETHICS, AND SOCIETY

In collaboration with the National Science Foundation, the Council for Big Data, Ethics, and Society was started in 2014 to provide critical social and cultural perspectives on big data initiatives. The Council brought together researchers from diverse disciplines — from anthropology and philosophy to economics and law — to address issues such as security, privacy, equality, and access in order to help guard against the repetition of known mistakes and inadequate preparation.

While member meetings was the Council's main activity, a number of papers and resources were made accessible in this final year of the project, with the goal of helping researchers, practitioners, and the public understand the social, ethical, legal, and policy issues that underpin the big data phenomenon. These included a series of case studies from outside contributors, a letter on proposed changes to the Common Rule, and a comprehensive white paper consolidating conversations and ideas from two years of meetings and discussions.

THE COUNCIL FOR BIG DATA, ETHICS, AND SOCIETY WAS LED BY DANAH BOYD, GEOFFREY BOWKER (UNIVERSITY OF CALIFORNIA-IRVINE), KATE CRAWFORD (MICROSOFT RESEARCH), AND HELEN NISSENBAUM (NYU). DATA & SOCIETY PARTICIPANTS INCLUDED RESEARCHER JACOB METCALF, PROJECT COORDINATOR EMILY KELLER, ADVISORS ED FELTEN AND ALONDRA NELSON, AND AFFILIATES SOLON BAROCAS AND SEETA PEÑA GANGADHARAN.

THE COUNCIL FOR BIG DATA, ETHICS, AND SOCIETY IS SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION.





# **DATA & SOCIETY** WORKSHOP

On May 16, 2016, in conjunction with our spring conference, Practice and Challenge (see page 45), we organized an intensive, one-day academic workshop, formatted similarly to the annual Privacy Law Scholars Conference. The purpose of the workshop was to convene some of the sharpest researchers working on issues related to Data & Society's concerns and to actively strengthen the community's intellectual rigor. Authors submitted half-finished papers in order to get unvarnished feedback from a group of about forty participants. A dozen papers were selected for critique by pairs of respondents and accompanying small groups. Based on our experience with the Data & Society Workshop, we plan to organize similar workshops a couple of times each year.

## SMALL GROUP SESSIONS

Over the last year, we have developed a program for hosting outside speakers for candid, substantive conversations with small, select groups of Data & Society people, plus invited guests who have relevant interests or expertise. Small Group Sessions have become an important way in which Data & Society's research is challenged, enriched, and extended — and potential collaborators and interlocutors are identified.

> A few of our Small Group Session speakers in 2015-16:

BARRY FRIEDMAN AND MARIA PONOMARENKO (NYU) ON POLICING THROUGH DEMOCRATIC **GOVERNANCE** 

NICOLAS MONTANO (VERA INSTITUTE OF JUSTICE) ON VIOLENCE AND YOUNG ADULTS **IN JAIL** 

SEDA GÜRSES (PRINCETON) AND JORIS VAN HOBOKEN (NYU) ON PRIVACY IN SERVICE-**ORIENTED ARCHITECTURES** 

XIAOCHANG LI (NYU) ON SPEECH RECOGNITION'S STATISTICAL TURN

STEVEN GUSTAFSON (GE GLOBAL RESEARCH) ON ALIN THE REAL WORLD

MATTHEW CRAIN (QUEENS COLLEGE) ON SURVEILLANCE IN THE SHADOW OF THE DOTCOM BUBBLE



## **PLATFORMATION**

On September 9, 2015, as part of our ongoing work on The Future of Labor in a Data-Centric Society (see page 14), we hosted Platformation, a one-day summit that brought together a diverse group of stakeholders for a multi-disciplinary discussion on platform-based labor. Participants included platform business leaders, researchers, labor organization representatives, policy experts, and those contributing labor to this growing sector. The event was co-convened by fellow Dean Jansen and Mary L. Gray (Microsoft Research). Participants raised questions and discussed concerns, and the consensus was that collaboration at a larger scale is necessary to arrive to concrete solutions in all sectors.







## **BOT WEEK**

Data & Society experimented with a residency in which invited "provocateur" Sam Woolley (University of Washington) engaged the D&S community by directing a weeklong exploration focused on bots. Held in December 2015, the workshop brought together a group of experts to get a better grip on the questions that bots raise. Thematically, bot week was closely aligned with our Intelligence & Autonomy initiative (see page 25). A series of nine provocations from workshop participants was published online in February 2016.

## OTHER EVENTS

The large number of other events Data & Society had a hand in in 2015–16 would require a separate report. Here is a sampling:

Iconoclasm! Media producer Angie Waller and fellow Karen Levy conducted a playful and productive workshop with the Data & Society community and outside guests — illustrators and visual thinkers — to develop strategies for communicating complex technology topics through images beyond the common and often misleading tropes of clouds, padlocks, eyes, surveillance cameras, etc. The workshop pushed forward our attempts to create new icons for themes in our research.

Data & Society also helped support The New York City School of Data, New York City's huge, one-day civic technology and open data conference, which was hosted by BetaNYC (fellow Noel Hidalgo is BetaNYC's executive director).







In connection with our ongoing work on Data, Human Rights & Human Security, Data & Society teamed up with the engine room and ThoughtWorks for a Responsible Data Forum on Data Visualization, focusing on risks and mitigations in using data visualization for analysis and advocacy.

Together with Leiden University, The Governance Lab @ NYU, UN Global Pulse, and the Data-Pop Alliance, our Data, Human Rights & Human Security initiative was also a partner in the second annual International Data Responsibility Conference in the Hague.

As a collaborator on the 2015 Knight News Challenge on Data, Data & Society co-hosted both a launch/ information event and a presentation of the winning proposals. Both events were held at Civic Hall, a community center for civic innovators co-founded by Data & Society advisors Andrew Rasiej and Micah Sifry.

And Data & Society hosted book talks from advisor Alondra Nelson (The Social Life of DNA: Race, Reparations, and Reconciliation after the Genome) and, with the Fordham Center on Law and Information Policy, Neil Richards (Intellectual Privacy).



## Connections

## **DATABITES**

Most weeks we host a talk, with lunch provided, in the Data & Society loft. Now in its second year, Data & Society's speaker series remains a key part of our effort to broaden our network and the range of voices our community is learning from and being challenged by. In 2015-16, we made Databites more public by growing our invite list, allowing anyone to request an invitation, improving audio for synchronous and asynchronous audiences, streamlining our collection of Databites videos, and webcasting the talks for remote participants.





#### We hosted over forty databites last year:

Sara M. Watson on embodied metaphors for talking about data

#### Catherine D'Ignazio and Mushon Zer-Aviv

on a feminist, critical ethics for data visualization

Tarleton Gillespie on when algorithms become culture

#### Philip Napoli

on social media, algorithms, and the public interest

C.W. Anderson on structured stories and the computation of journalistic context

Vanessa Kitzie and Debanjan Ghosh on competing social media narratives of the criminal justice system

### John Crowley

on data for climate action

Alan Leidner on the past, present, and future of GIS in NYC

Patrick Ball on understanding patterns of mass violence with data and statistics

Paula Kift and Mark Latonero on digital passageways and borders

#### Laura Hannah

on predation, surveillance, and economic disobedience

Maurice Mitchell on hacking black democracy

#### Nicholas Chung on tech disrupting the school-to-prison pipeline

Gregory Donovan on remixing modes of knowing and belonging in the urban platform

Rafi Santo and Dixie Ching on developing open networks for digital learning

Patrick McCormick on student data and its discontents

#### Elana Zeide

on student privacy and big data

Neil Selwyn on the messy realities of digital schooling

#### Scott Westerfeld

on surveillance and identity in dystopian young adult novels

Eric Klineberg on connecting in a digital age













To see an archive of past speakers, visit datasociety.net/databites

Jessica Ladd on using information escrows and game theory to aid sexual assault reporting

Caroline Sinders on designing Consent into Social Networks

Amanda Levendowski on online harassment and abuse reporting policies

Ilana Gershon on social dilemmas around new media

Tristan Harris on an ethical attention economy

Natasha Schüll on self-regulation in sensor society

Ifeoma Ajunwa on genetic coercion

#### Beth Bechky

on working in a crime lab

Malavika Jayaram on biometric technologies and power

**Jason Bobe** on the search for protective factors in health

JP Pollack on user engagement in consumer health apps

Dr. William B. Jordan on large databases of physician behavior

Daniel Grushkin on the fusion of biology and data science

Shiri Azenkot on improving access to info for people with vision disabilities

Francine Berman on building a sustainable data ecosystem

Peter Micek and Deji Olukotun

on digital rights and Internet shutdowns

Ari Schwartz on risk-based frameworks for cybersecurity and privacy

Karen Sandler on accountability and transparency in medical devices and the Internet of Things

Michelle Brown on open election data

Chris Dixon on the possibilities of blockchain technology

**Molly Sauter** on the politics of "disruption"

Janet Vertesi

on the social life of spacecraft



## **WHISKEY WEDNESDAYS**

This year we also continued to host a weekly social hour for the Data & Society community to get to know one another and, importantly, guests - researchers and academics, activists and journalists, designers and artists, coders and makers - both locals and those visiting New York. Increasingly Whiskey Wednesdays bring Data & Society together with other organizations; in our second year, for example, we were joined by groups from Civic Hall and the New York civic tech community, the ACLU's Project on Speech, Privacy, and Technology, the Mozilla Fellows for Science, DataKind, and ITP Camp.







## PRACTICE AND CHALLENGE

On May 17, 2016, Data & Society hosted Practice and Challenge, a conference on the dilemmas and prospects of practicing tech. We brought together D&S researchers, friends, and family to hear from doers, investors, journalists, activists — people involved from different angles in the practice of technology — about what they're working on and, importantly, why. We heard about the challenges they face in thoughtfully building the sociotechnical world of today and tomorrow.

## PRACTICE AND CHALLENGE

#### (CONTINUED)













## Speakers included

danah boyd, Mandy Brown (Vox Media), Cindy Cohn (EFF) Anil Dash (D&S board member), Nadia Heninger (University of Pennsylvania) Kati London (Microsoft) Nancy Lublin (Crisis Text Line) Andrew McLaughlin (Medium) Youngna Park (TinyBop) Claudia Perlich (Dstillery) Yancey Strickler (Kickstarter) Clive Thompson (journalist) Ethan Zuckerman (MIT Center for Civic Media)

Following the conference we continued the conversation with a reception, which served as an opportunity to reunite the greater D&S community a year and a half after our official launch. The reception featured an art program curated by fellow Mimi Onuoha and artist-in-residence Ingrid Burrington, with pieces by Mimi, Ingrid, Sam Lavigne, Allison Parrish, and D&S media producer Angie Waller.







The Data & Society Fellows Program brings together researchers and practitioners (and those in between) to engage one another and help us collectively identify and analyze issues and interventions at the intersection of technology and society. Fellows are given an opportunity to leverage Data & Society to increase the impact of their work and to contribute to in-house research projects. Through the Fellows Program, D&S thickens its research network, increases its intellectual diversity, and surfaces novel project ideas.



IN 2015–16, WE HOSTED THE SECOND CLASS OF DATA & SOCIETY FELLOWS.



#### ANGÈLE CHRISTIN



Angèle Christin is a postdoctoral fellow at the Data & Society Research Institute, the Fondation Maison des Sciences de l'Homme, and The New School for Social Research. She researches how algorithmic quantification reconfigures existing forms of legal expertise by examining the rise of predictive algorithms and risk-assessment tools in the criminal justice system. Christin is an alumna from the Ecole normale supérieure, Paris and received her PhD in Sociology from Princeton University and the EHESS (Paris) in 2014.

#### DIANA FREED



Diana Freed is a Scholar-in-Residence at NYU-ITP and a Technologist-in-Residence at Cornell Tech with the Small Data Lab. Her research focuses patient-centered design, health wearables, small-data collection, and health behavior among people living with mental health and chronic conditions. Freed is a graduate of NYU-ITP, Columbia University, and the NYU Graduate School of Arts and Science and completed postgraduate training at the William Alanson White Institute and The Institute for Contemporary Psychotherapy.

#### SORELLE FRIEDLER



Sorelle Friedler is an assistant professor of computer science at Haverford College. Her research focuses on ways to prevent machine learning algorithms from discriminating by replicating prejudicial decisions and formalizing notions of fairness across disciplines. Friedler is also working with lawyers and policymakers to communicate the risks of such automated decisions and the potential benefits of ensuring computational fairness.

#### selected output

ANGÈLE CHRISTIN, "FROM DAGUERREOTYPES TO ALGORITHMS: MACHINES, EXPERTISE, AND THREE FORMS OF OBJECTIVITY," PUBLISHED IN THE ACM SIGCAS COMPUTERS AND SOCIETY NEWSLETTER, MARCH 2016.

LONGQI YANG,
DIANA FREED, ALEX WU,
JUDY WU, JP POLLAK,
DEBORAH ESTRIN,
"YOUR ACTIVITIES OF
DAILY LIVING (YADL):
AN IMAGE-BASED SURVEY
TECHNIQUE FOR PATIENTS
WITH ARTHRITIS,"
JANUARY 2016.

IFEOMA AJUNWA, SORELLE FRIEDLER, CARLOS SCHEIDEGGER, SURESH VENKATASUBRAMANIAN, "HIRING BY ALGORITHM," MARCH 2016.

#### NOEL HIDALGO



Noel A. Hidalgo is the executive director of BetaNYC. His work focuses on empowering community-based organizations, NYC's Community Boards, and government employees to understand how data, tools, and culture are unified in today's civic hacking ethos. His ultimate goal is to develop a workshop that establishes a free, modular, and reusable curriculum that demystifies government and empowers communities interested in civic technology, data, and design.

#### MARK LATONERO



Mark Latonero is a professor and research director at the USC Annenberg School's Center on Communication Leadership & Policy and leads its Technology and Human Trafficking Initiative. Latonero is researching the intersections between data, development, and human rights, advancing the empirically-driven research needed to create a shared understanding of risks and benefits of data-centric approaches to social issues.

#### KAREN LEVY



Karen Levy is a sociologist and lawver and is a research fellow at NYU's Information Law Institute. Her research investigates how digital technologies are used to enforce rules and laws, with particular focus on the normalization of electronic surveillance within social and organizational relationships. She holds a PhD from Princeton University and a JD from Indiana University Maurer School of Law.

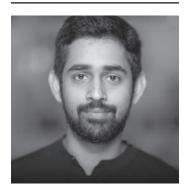
#### selected output

AS EXECUTIVE DIRECTOR OF BETANYC, NOEL HIDALGO WAS ONE OF THE FORCES BEHIND THE TREESCOUNT! DATA JAM, AT WHICH NYC PARKS UNVEILED THE MOST SPATIALLY ACCURATE MAP OF NEW YORK CITY'S STREET TREES EVER CREATED.

MARK LATONERO, "AN APP TO SAVE SYRIA'S LOST GENERATION?" **PUBLISHED IN** FOREIGN AFFAIRS. MAY 2016.

KAREN LEVY, "INTIMATE SURVEILLANCE," PUBLISHED IN THE IDAHO LAW REVIEW, FALL 2015.

#### SURYA MATTU



Surya Mattu is an artist and engineer critical of the public perception and access to wireless spectrums. He works for Bell Labs and is a research fellow at ITP/ NYU. His research focuses on the technology and politics surrounding the radio frequency spectrum, such as Wi-Fi, Bluetooth, GSM, and how it can be used for tracking devices and people. He is developing empowering open source tools and investigating how data is leaked and exploited in order to better direct cultural conversations surrounding these invisible yet powerful networks.

#### WILNEIDA NEGRÓN



Wilneida Negrón is a civic technologist and researcher focused on emerging applications of data mining/predictive analytics, civic technology, and social justice, and serves as the Chief Digital Officer for the Florida Justice Technology Center. Her work centers on developing digital products, data-driven insights, programs, and policy to help increase access to and efficiency of justice systems around the world. She convenes national civil and criminal justice groups to explore the potential for discrimination, inequality, and other civil rights issues presented by "big data". She holds a Masters in Public Administration. Masters in International Affairs, and is a PhD Candidate at the CUNY Graduate Center.

#### MIMI ONUOHA



Mimi Onuoha is an artist and researcher using data and code to explore new forms of storytelling, social critique, and interaction. She is an Adjunct Professor at NYU, and her work focuses on the overlap of digital and geographic spaces. Onuoha is combining ethnographic research methods with emerging data practices to investigate missing datasets as opportunities for grassroots data collection.

#### selected output

JULIA ANGWIN, JEFF LARSON, SURYA MATTU, LAUREN KIRSCHNER, "MACHINE BIAS: RISK ASSESSMENTS IN CRIMINAL SENTENCING," PUBLISHED BY PROPUBLICA, MAY 2016.

WILNEIDA NEGRÓN ORGANIZED A WEBINAR/ TRAINING FOR LEGAL SERVICES' NATIONAL **TECHNOLOGY ASSISTANT** PROJECT ON ETHICS IN DESIGNING DATA INTERVENTIONS.

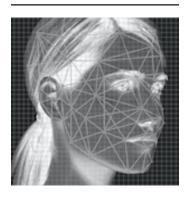
MIMI ONUOHA, "THE POINT OF COLLECTION," PRESENT-**ED ON DATA & SOCIETY'S** MEDIUM PUBLICATION, POINTS, FEBRUARY 2016.

#### MARTHA POON



Martha Poon is a social scientist interested in how data-intensive systems are changing the public's relationship to finance. She researches and writes about the impact of credit scoring technology on consumer access to credit. At Data & Society, she is developing strategies for investigating, explaining, and communicating the role of information systems in financial innovation. Poon earned a doctoral degree from the Science Studies Program at the University of California, San Diego in 2012.

#### NATASHA SINGER



Natasha Singer is a technology reporter at The New York Times where she explores the intersection of data and society, with a particular focus on education, health, and behavioral advertising. She also writes a monthly column, called Technophoria, for the Sunday Business section. Singer is developing a taxonomy of educational data, identifying the types of information that schools and ed tech companies collect about pre-kindergarten through twelfth-grade students; the primary and secondary uses of that data; how those details are analyzed and disseminated; and the outcomes of those analyses.

#### FRANK TORRES



Frank Torres is Microsoft's Director of Consumer Affairs where he focuses on the intersection of privacy and public policy. Torres will work to advance public understanding of the link between big data and civil rights. He will explore a framework to better understand and address data-driven discrimination. Torres' work involves collaboration with and convening activists, researchers, policy makers, and community and business leaders.

#### selected output

MARTHA POON, "CORPORATE CAPITALISM AND THE GROWING POWER OF BIG DATA: REVIEW ESSAY," PUBLISHED IN SCIENCE, TECHNOLOGY, & HUMAN VALUES, JUNE 2016.

NATASHA SINGER, "AN APP HELPS TEACHERS TRACK STUDENT ATTENDANCE," PUBLISHED IN THE NEW YORK TIMES, JANUARY 2016.

FRANK TORRES (WITH RESEARCH ANALYST ZACHARY GOLD) LED AN **INTERNAL DATA & SOCIETY** WORKSHOP ON "HOW THINGS GET DONE IN WASHINGTON," A TUTORIAL ON THE REALITIES OF HOW DC AND THE POLICY WORLD WORKS.

# Output

Over the last year, Data & Society's researchers, fellows, affiliates, and advisors published and posted online over 120 articles, papers, essays, etc. This is a brief selection. For links to all Data & Society-related output, visit http://www.datasociety.net/output.

## **OUTPUT: PRIMERS**

#### ALGORITHMS AND PUBLICS

Algorithms and Publics Mediation, Automation, Power
ROBYN CAPLAN, DANAH BOYD

Who Controls the Public Sphere in an Era of Algorithms? Questions and Assumptions
LAURA REED, DANAH BOYD

Who Controls the Public Sphere in an Era of Algorithms: Case Studies
LAURA REED, ROBYN CAPLAN

DATA, HUMAN RIGHTS & HUMAN SECURITY

Data, Human Rights & Human Security 22 Jun 2015 MARK LATONERO, ZACHARY GOLD DATA & CIVIL RIGHTS:
A NEW ERA OF POLICING AND JUSTICE

Police Body-Worn Cameras 27 Oct 2015

ALEXANDRA MATEESCU, ALEX ROSENBLAT, DANAH BOYD (WITH SUPPORT FROM JENNA LEVENTOFF AND DAVID ROBINSON)

Data & Civil Rights: Social Media Surveillance and Law Enforcement 27 Oct 2015

ALEXANDRA MATEESCU, DOUGLAS BRUNTON, ALEX ROSENBLAT, DESMOND PATTON, ZACHARY GOLD, DANAH BOYD

Data & Civil Rights: Biometric Technologies in Policing 27 Oct 2015

ROBYN CAPLAN, IFEOMA AJUNWA, ALEX ROSENBLAT, DANAH BOYD

Data & Civil Rights: Predictive Policing 27 Oct 2015

SARAH BRAYNE, ALEX ROSENBLAT, DANAH BOYD

Data & Civil Rights: Courts and Predictive Algorithms 27 Oct 2015

ANGÈLE CHRISTIN, ALEX ROSENBLAT, DANAH BOYD

Data & Civil Rights: Open Data, the Criminal Justice System, and the Police Data Initiative 27 Oct 2015

ROBYN CAPLAN, ALEX ROSENBLAT, DANAH BOYD

Points is an experimental collection, on Medium, of pieces from the Data & Society community: occasional extracts, essays, and provocations to manifest, complicate, and re-frame the relations between data, technology, and society.

## **OUTPUT: POINTS**

Refugees' New Infrastructure for Movement

Hostile Architecture — Electronic Monitoring ALEXANDRA MATEESCU

The Point of Collection

OKCupid data release fiasco

Where Do We Find Ethics?

Does data-driven learning improve equity?

Questions about Google autocompl ROBYN CAPLAN

Facebook Must Be Accountable to the Public DANAH BOYD

No More Magic Algorithms: Cultural Policy in an Era of Discoverability FENWICK MCKELVEY

Ben Franklin, the Post Office and the Digital Public Sphere ETHAN ZUCKERMAN

The Case for Precise Outrage KAREN LEVY

Be Careful What You Code For

It's not cyberspace anymore.

DANAH BOYD

What World Are We Building?

SPECIAL BOT WEEK (SEE PAGE 37) SERIES, "TALKING BOTS":

How to Think About Bots: a botifesto SAMUEL WOOLLEY, DANAH BOYD, MEREDITH BROUSSARD, MADELEINE CLARE ELISH, LAINNA FADER, TIM HWANG, ALEXIS LLOYD, GILAD LOTAN, LUIS DANIEL PALACIOS, ALLISON PARRISH, GILAD ROSNER, SAIPH SAVAGE, AND SAMANTHA SHOREY

What is it like to be a bot? SAMANTHA SHOREY

Activist Bots: Helpful But Missing Human Love?

Bots: A definition and some historical threads
ALLISON PARRISH

Our friends, the bots?
ALEXIS LLOYD

On Paying Attention: How to Think about Bots as Social Actors MADELEINE ELISH

What is the Value of a Bot?

DANAH BOYD

Rise of the Peñabots
LUIS DANIEL PALACIOS

A Brief Survey of Journalistic Twitter Bot Projects LAINNA FADER

## **OUTPUT:** JOURNAL ARTICLES

Corporate Capitalism and the Growing Power of Big Data: Review Essay Science, Technology, & Human Values 1 Jun 2016

MARTHA POON

Where are Human Subjects in Big Data Research? The Emerging Ethics Divide Big Data and Society 14 May 2016

JAKE METCALF, KATE CRAWFORD

Dreams of Accountability, Guaranteed Surveillance: The Promises and Costs of Body-Worn Cameras Surveillance & Society 10 May 2016 ALEXANDRA MATEESCU, ALEX ROSENBLAT,

Student Data Privacy: Going Beyond Compliance State Education Standard 9 May 2016

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**BONNIE TIJERINA** 

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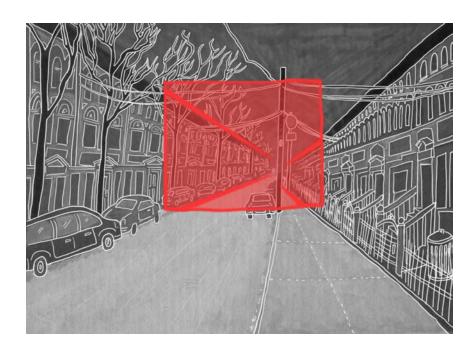
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## **OUTPUT: BOOKS**

The Quantified Self MIT Press 4 Apr 2016 GINA NEFF, DAWN NAFUS

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ALONDRA NELSON

Guide to Crowdsourcing Tow Center 19 Nov 2015

MIMI ONUOHA, JEANNE PINDER, JAN SCHAFFER

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