Transforming the Culture: Internet Research at the Crossroads

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Abstract

The topic of justice, fairness, bias, labor and their relation the products and practices of technology and internet companies has been a subject of our concern for nearly a decade. We see these challenges– from the organizing logics of the technology sector with respect to algorithmic discrimination, to labor practices in commercial content moderation, as key pathways into better understanding the creation and maintenance of problems made by the technology sector that cannot be solved with techno-solutionism. While our work has been closely aligned to research and advocacy broadly construed in the domain of ethics and AI, we seek to expand the conversations about sociotechnical systems beyond individual, moral and ethical concerns to those of structures, practices, policies which would allow for interdisciplinary frameworks from the fields of critical information studies, sociology, and the social sciences, and the humanities. To make legible the paradigm-shifting work we think could be taken up by scholars at colleges and universities, we will outline the contours and specifics of institutionalizing these approaches through a research center, the UCLA Center for Critical Internet Inquiry (C2i2) and its activities, By making visible the need for such a space, and our experiences and values, our hope is that it will make transparent the process and possibilities for centering justice and fairness in the world, rather than the prevailing technosolutionism we see emerging within conversations and initiatives focused on ethics and technology.

1 Introduction

In the summer of 2018, we received approval for the establishment of a new UCLA Center for Critical Internet Inquiry (C2i2). The proposed Center would be based within the Department of Information Studies, in the Graduate School of Education & Information Studies, but would be campus-wide in scope, The effort was designed to address the societal impact of internet platforms, the social construction and effects of data they generate and disseminate, and their various drivers with a keen focus on issues of racial justice and gender equity. At the time of our founding, UCLA did not have any organized research unit that exclusively focused on this extraordinarily important and pervasive area of twenty-first century life, culture and economy.

Our effort to develop and centralize a robust, visible institutional infrastructure at UCLA and beyond that provides researchers and instructors with a locus from which to inform internet development and policy, has not been without challenges. This work, by its very nature, challenges received notions of the internet and other digital technologies as primarily liberatory, beneficent or, at the least, value-neutral. Efforts to address the

Bulletin of the IEEE Computer Society Technical Committee on Data Engineering

potentials and pitfalls of the internet for people and communities who are marginalized and underrepresented with respect to the digital is happening at a moment of austerity, when universities are increasingly reliant upon corporate and private donations to stay afloat in the wake of shrinking allocations from the legislators in Sacramento to its robust California Community Colleges, its world-class California State University system, and its flagship research campuses across the University of California.

2 The State of Internet Research

The public is increasingly eager to develop its own understanding and ability to actively participate in the steering of the digital technologies, social media platforms, and internet usage that now characterize much of everyday life, yet there are few mechanisms that afford such intervention. Those who should act in their stead, such as legislators and policy makers, legal professionals, educators, and others in gatekeeping capacities often lack a full picture of these technologies, their processes, and their social implications–even when they are sympathetic and energized to the public's desire to wrest back control. For much of their existence, Silicon Valley's social media firms have enjoyed close – even cozy – relationships with legislators in Washington. Even as the tide of general sentiment has turned over the past few years, the grilling that Senate subcommittees have intended to give the executives of those firms has often fallen flat simply due to a lack of precision or understanding on the part of the questioners. In both cases, the public has stood to lose.

Meanwhile, there has been an effort by these same firms, often along with university partners that have been heretofore largely uncritical of them, to get out ahead of any potential lawmaker curtailing their activities by appearing to self-regulate. The most common iteration of this attempt has come in the nascent development of a variety of "ethics" initiatives, boards and research teams popping up inside of and adjacent to the major corporations. Those initiatives, too, are not without significant flaws. We are fundamentally concerned with the industry regulating itself in lieu of responding to public policy and providing accountability. While self-reflection is important, as are increasing efforts to broaden frameworks of responsibility, we largely see that self-regulation is insufficient as the industry leaders are the subjects of antitrust lawsuits, EEOC violations, and investigations into consumer harm.

We are indebted to a number of scholars who are influencing our thinking about the politics and power embedded in the digital, and whose work we are in dialog with on a continual basis [Benjamin, 2019, Chun, 2008, Daniels, 2009, Eubanks, 2018, Hoffmann, 2019, Noble, 2018, Pasquale, 2016, Roberts, 2019, Vaidhyanathan, 2006, Vaidhyanathan, 2018]. There are of course, so many important social scientists and humanists whose work has been the opening for scholars in computing to take the systemic issues of fairness and equity. What we often find is that scholars in computer science and related engineering fields do not cite the work of the scholars who have framed the debate, thus making the need for epicenters of interdisciplinary critical scholarship even more crucial. Indeed, the ability to invoke issues of fairness has been made legible and plausible because humanists and social scientists have provided the evidence that has forced these issues into view.

For instance, [Binns, 2018]'s review of ethics and fairness in the fields of machine learning and artificial intelligence is an important overview of how our colleagues in computing fields are increasingly limited by the origins of Western philosophy as they cultivate "ethical AI." We will not repeat here the work done to trace the histories of liberalism and its limitations as applied to computing and digital technologies[1] , but we note that this previous careful study of the origins of liberal philosophy that bolsters the field of ethics deeply informs our own disposition toward the limits of this emerging field. In particular, we believe that the field of "ethical AI" must contend with how it affects and is affected by power structures that encode systems of sexism, racism, and class. Instead of depoliticizing these systems, we embrace a sociological orientation, in the tradition of scholars like [Daniels, 2009], who has adeptly framed and helped us better understand more powerful analytics

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[1]See [Bui and Noble, 2020].

like oppression and discrimination in lieu of words like bias and ethics, which obfuscate the power analyses and interventions so desperately needed.

In our research, we use structural and systems-level analyses that can properly account for the impact of the socio-technical assemblages that make up digital ecosystems and infrastructures. Through our studies of the digital, we uncover opportunities for accountability from harms that extend beyond individual moral and ethical choices to public policy, labor and employment practices, supply-chain business practices, environmental interactions, and a variety of approaches that can have tremendous impact at scale. Without these approaches, the work of ethical AI is greatly reduced to individual, technical, and organizational-level failings against some imagined "fair" standard that, itself, is dislocated from fairness as a matter of civil, human, or sovereign rights tied to political, economic, and social struggles. Because of these analytical framings, we are able to examine the material dimensions of internet-enabled digital infrastructures and practices that involve many factors that extend beyond algorithms and AI to include workers, legal and financial practices, and consolidations of power. [Bui and Noble, 2020] wrote about the way in which technology corporations, in an effort to minimize risk from the damages associated with their discriminatory and faulty products, are performing reputation management through claims to be more accountable, fair, transparent, and ethical. Several in-house ethical AI teams, corporate-sponsored research think tanks, and non-profits aligned with industry are producing myriad conferences, white papers, research publications and campaigns that seek to define the landscape of ethical AI. They note:

> Moreover, data trusts and research partnerships between universities, policy think tanks, and technology corporations have been established and revamped as a go-to strategy for effecting a more democratic and inclusive mediated society, again calling for fairness, accountability, and transparency (FAT) as key ideals within the future of AI, yet often leaving and ignoring notions of intersectional power relations out of their ethical imaginaries and frameworks. As a point of departure, many are invested in linking conversations about ethics to the moral genesis and failures caused by structural racism, sexism, capitalism, and the fostering of inequality, with an eye toward understanding how the digital is implicated in social, political, and economic systems that buttress systemic failures. Complicating these conversations are concerns about neo-colonial technology supply chains and the total integration of the digital into global economic systems [Bui and Noble, 2020].

We are equally influenced in the making of space for feminist and critical interrogations of fairness models by the work of [Hoffmann, 2019], whose work we see at the forefront of design-thinking that accounts for systemic oppression rather than technosolutions that are rooted in ideologies of colorblindness, genderblindness, and disavowals of their politics. We are heartened to see in the last proceedings of the ACM Fairness, Accountability and Transparency conference the model of [Abebe et al., 2020] in thinking about the complexities and role of computing in social change, and see this as a powerful possibility for reimagining how we do interdisciplinary work that makes for new normativities around social justice in the fields of computing.

As we think about the work before us in 2021, the limits of the ethical AI-academic-industrial complex, with respect to true interventions that need to be made in the business models that promulgate unfairness and discrimination were on powerful display with the unexpected and headline-grabbing December 2020 firing of one of the most prominent AI ethicists in the world, Dr. Timnit Gebru of Google. Indeed, as 2020 drew to a close, it was with daily news stories and tweets about a range of problems Gebru had faced, from the hostile work environment she experienced as a Black woman to attempts to silence and suppress the evidence she found of algorithmic discrimination in Google's natural language processing (NLP) models [Hao, 2020]. Indeed, her work referenced many well-known and broadly understood negative impacts of AI, from discrimination to environmental impact [Crawford et al., 2019], while in this case, specifically linking these flaws to Google's products. Gebru's scholarship in the area of discriminatory and unfair technologies is deep and unparalleled [Gebru, 2019, Gebru et al., 2018, Buolamwini and Gebru, 2018]. What this case demonstrates in practice is that

doing the hard work of tracing discrimination and harm cannot withstand the profit imperative that technology companies prioritize at all cost – even at the expense of their own claims to prioritizing ethics.

We believe this necessitates, more than ever, independent spaces for the study of these problems, without exertion and pressure from the interests of shareholders, and without impinging upon academic freedom and the need for researchers to speak truth to power through their analyses and discoveries.

Moreover, the firing of Gebru is not unlike the firing and intimidation of workers in a variety of technology companies who, when confronting their employers with evidence of the harms of their products or labor conditions, have been summarily dismissed [Campbell, 2018, Kan, 2019, Solon, 2018]. Therein lies a profound contradiction at the claims to fairness and ethics in product development while evidence of unfairness, discrimination, wage disparity, misrepresentation, hostile and damaging workplaces, harassment, and so forth are standard operating procedures across the major internet companies. We need spaces for research and a variety of interventions – at social, political, and technical dimensions – that are not controlled by the interests of the very actors that benefit from these types of corporate practices.

We see the limits of possibility for intervention in industrial-academic ethics labs, and we recognize the roster of university- and industry-based centers engaging at the intersection of internet and society is long, but few are specifically and directly concerned with articulating the critical issues of asymmetrical power with respect to digital technologies. Simply put, we believe the time to do so is now and we are attempting to do so at UCLA. Even fewer centers of internet inquiry are institutionalized at public research universities: some of the most visible centers have been the University of Oxford's Oxford Internet Institute (OII), Harvard University's Berkman Klein Center, Yale's Internet Society Project and Stanford University's Center for Internet & Society and Stanford Center for Human-Centered Artificial Intelligence, which are often industry focused and not without associated challenges. As industry and commercial projects are increasingly moving to the foreground in the public sphere, and having significant impact on shaping the activities and nature of public institutions–including public K-12 education and libraries, higher education, and public media, inquiry into these projects and their trajectories is well-suited to UCLA as the leading public research university in the United States. In our case, we are interested in research and policy interventions that center the most vulnerable. We believe that this type of research, expressly embedded in public universities, strengthens the democratic, public-interest counterweights that are so clearly needed to foster broader interdisciplinary research efforts that prioritize various publics.

3   An Effort to Transform the Culture of Internet Studies

The UCLA Center for Critical Internet Inquiry (C2i2) is an interdisciplinary center that promotes the technological, historical, social and humanistic study of the internet and digital life with respect to the values of fairness, justice, equity, and sustainability in the digital world. C2i2's innovation and orientation to its study of the internet is not simply based on the objects of investigation with which we engage, but, rather, our theoretical orientation to this work. We are humanities-informed social scientists who are also technologists. As such, we are concerned with the social implications and impact of technology. Our disciplinary and theoretical orientation reflects what we describe as the broad, and still somewhat nascent, subfield of critical information studies [Vaidhyanathan, 2006]. In our intellectual practice, critical information studies itself, by its nature, necessitates interdisciplinary contact and intellectual influence bridged between and among it and the fields of library & information science, internet studies, media studies, communication, African American studies, gender studies, labor studies, sociology, science and technology studies, and other key and relevant points of scholarly contact.

The conceptual basis for an expressly critical information studies, in particular, is a stipulation that information is fundamentally and inherently a matter to be regarded as existing along axes of social, political and cultural production, import, values and impact. It therefore follows that power analyses of information along these axes, as they are undertaken in a critical information studies theoretical practice, can be used to apprehend, describe,

critique and intervene upon the medium as well as the meanings of texts, images, and ideas and the ways they are produced, displayed, systematized, circulated, consumed, stored and/or discarded within and among digital systems and along those same axes of power. This analytic process fundamentally and inherently relies upon political economic critiques to examine how information is controlled, owned, and distributed.

Under a critical information studies framework, the political economic analysis is then engaged in a further, intersectional power analysis that recognizes that these informational phenomena occur in relation to, and at varying uneven degrees, based on historical distributions of power along multiple additional axes: those of race, ethnicity, and gender, to name but a few. Herein, the focus is a dedication to studying the ways in which race and gender function in/are deployed by the digital technology practices and products of multinational digital internet media corporations. In this way, we both broaden and sharpen the kinds of analytical tools that can be used to understand technology and/as power and its impacts on the world.

For us, the making of C2I2 is an effort to promote investigations into the politics, economics, and impacts of technological systems, with the goal of understanding the relationships between digital technologies and the internet as a site to enhance the public good. In practical terms, the Center supports both undergraduate and graduate research and education through collaborations with a variety of academic units as well as through the programs within UCLA's Department of Information Studies and the School of Education & Information Studies. Our research and teaching emphasize internet and information scholarship and practice as relevant to a variety of disciplines and domains.

4   Our Guiding Principles

Our guiding principles have been an effort to make visible a set of priorities that we hope can be taken up, strengthened and added to by a robust network of multiple internet and society centers and initiatives. We start from statements of our fundamental principles and core values:

- We believe our research should have community impact and foster racial justice and social improvement

- We promote outreach, inclusion, and translation of research to the public for greater impact and positive social change

- We invite funders to support the work of C2i2 with an understanding that support for high-quality research is best realized with total independence from funder control over the research agenda, operations, communications, etc. of C2i2

- We recognize that transparency of sources of funding is an important ethical dimension of the work we do, and we seek to make our funders visible while clearly articulating the boundaries and firewalls we place between donations and research outcomes

- We believe in and support global networked relationships with other sites of research and advocacy, worldwide, and we employ a "big umbrella" approach to supporting people and projects that are interested in critical inquiries of the internet and society

- We aspire to relationships and operational practices of "mutual respect, care, pluralism and the duty of repair,"[2] consistent with the strategic mission and vision of the UCLA Department of Information Studies

- We value difficult conversations and debates

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[2]In this quote, we draw upon recent efforts in the UCLA Department of Information Studies to crystallize and clearly articulate its own commitments.

- We engage in cyclical review of the research and initiatives of C2i2 to ensure that we are creating a sustainable research environment where faculty, students, staff and community members can develop robust programs of research and action

- We foster an environment of challenge and professional development for our affiliates at all stages in their careers and professional lives

- We believe in a holistic approach to scholarship that puts physical and mental health and wellness of our colleagues and ourselves at the fore and underscores the importance of a healthy, supportive working environment

- We value learning and dissemination of the research of C2i2 for the benefit of all of our communities and for the larger public good

- We use multiple modalities to transfer our findings in legible, accessible ways for a variety of audiences

5 Critical Internet Studies on the Rise

As of this writing, a series of public circumstances have shaken confidence in internet technologies and platforms. We see these points of failure as having the potential for a profound moment of reconfiguration and repair, as they have opened up new possibilities for reimagining the possibilities of digital networks and their effects. We recognize both the positive affordances, and possible consequences of under-developed or asymmetrical technologies, and seek to study these more robustly. The public is increasingly eager to develop its own understanding and ability to actively participate in the steering of the digital technologies, social media platforms, and internet usage that now characterize much of everyday life, yet there are few mechanisms that afford such intervention. Those who should act in their stead, such as legislators and policy makers, legal professionals, educators, and others in gatekeeping capacities often lack a full picture of these technologies, their processes, and their implications–even when they are sympathetic and energized to the public's desire to wrest back control. Building upon existing faculty research strengths, C2i2 is attempting to serve as a vital bridge to close this gap in knowledge for academics, policy makers, engaged industry personnel and the public at large by providing both original insights derived from empirical research, as well as the expert analysis and interpretation of those data to positively impact and reimagine digital technologies' influence in society.

The making of a campus-wide interdisciplinary center that promotes the study of the internet with respect to the values of fairness, justice, equity, and sustainability in the digital world has been difficult in the wake of COVID-19 and the austerity measures now facing higher education. Private foundations have been the lifeblood of our ability to pursue agenda-setting and proactive research, teaching and service while maintaining our intellectual independence, as we seek the bridging of academia, industry, and policy to effect positive change within and among these domains. We engage with scholars, activists, advocates, technologists, policy makers and others who are interested in the ways in which digital technologies are shaping and transforming humanity through initiatives that reflect a broad range of social and ethical concerns that require sustained, open and multistakeholder debate and exploration. Developing a center that openly values justice, equity, diversity, community building, environmental sustainability, labor and worker health and well-being, and public trust in democratic institutions with respect to the role of the internet and its constituent platforms and technologies in maximizing or eroding these possibilities has also been less popular than one might believe. We note that our many internet and society counterparts around the world who have been better resourced and supported over the past decade have often enjoyed a more remunerative and expedient direct relationship to the industries they seek to study and critique, whereas our nascent work in centering social justice in information and internet studies has been slowly waxing. It is now firmly on the rise.

We see our work furthering joint curriculum development by the Departments of Information Studies and Education to respond to calls by the State of California for increased digital and media literacy in K-12 schools (SB 830), and see our presence as faculty members within the School of Education & Information Studies as an inherent strength. Likewise, we also value collaboration with centers for the study of the internet and society at other leading universities in the US and elsewhere. As such, we value public intellectual work and public programming. Our plans for public engagement also include outreach to public libraries and archives, educational institutions and community organizations, as well as collaboration with other UCLA campus centers such as Bunche Center, the Institute for Research on Labor and Employment, the Center for Global Digital Cultures, the Center for Information as Evidence, the UCLA Law Promise Institute, the UCLA Community Archives Lab, and the UCLA Game Lab.

The possibility for our work has been launched through our inaugural Minderoo Initiative on Technology and Power, established through a $3M gift over 5 years that began on July 1, 2020. C2i2 is one of the North American nodes of Minderoo Foundation's global tech impact network, employing an expert team to develop model frameworks for laws that protect the public from the harms of predatory big data and digital platforms. In our work, we will identify the existing compliance issues of AI use, provide an independent source of public-facing evaluation and knowledge for people seeking greater information, protection and redress, and deliver a model legislative package that upholds dignity, equality, and transparency in government's use of algorithmic and human moderated digital and data-reliant systems.

We anticipate outputs of interest not only to the greater scholarly community but also with direct and meaningful application in the areas of policy development, advocacy, industry and to an interested and engaged public.

6 Conclusion: Strengthening Research Agendas at the Intersection of Society & Big Data

Currently, there are only a handful of Internet Studies departments that endeavor to cover these topics holistically in the way we propose. We believe this is therefore a tremendous opportunity not just for UCLA, but for many public universities to make an investment in robust collaboration with extant partners across campuses to cultivate a graduates prepared to enter a variety of professions where they can have direct impact in areas of algorithmic discrimination, trust & safety, internet policy, social media and content development, and public-advocacy and community organizing. We believe the time is now to create new paradigms for the public to understand the costs of tech platforms, predictive technologies, advertising-driven algorithmic content, and the work of digital laborers. Of course, central to the harms caused by dis- and mis-information is the work of Commercial Content Moderators [Roberts, 2019]. We have already been at the helm of strengthening global research networks for the study of commercial content moderation of social media platforms at scale.

Of course, we also think there are important roles computer scientists and engineers can play in this effort given their expertise. We believe strongly in interdisciplinary approaches and through C2i2 seek opportunities to collaborate, teach, and undertake research between data scientists, computer scientists, information professionals, social scientists and humanists. In the most forward-thinking of ways, we imagine the social and technical given equal footing and resources to solve the most pressing issues facing humanity, the planet, and to address pervasive global inequality and injustice. Our research demonstrates conclusively that internet, social media and tech companies can no longer deny, downplay or ignore their own culpability in some of these crises; those that will thrive beyond regulation and public pushback will see such critique not simply as unfounded criticism for its own sake, but as a tremendous opportunity for real restoration and repair.

There is an important and timely need for both research and public policy development – with civil, human and sovereign rights organizations and stakeholders at the table with technologists, social scientists and humanists – around the importance of restoration and reparations to democracy. For this reason, we see our work, a

decade on as collaborators and a year into the existence of C2i2, as having only just begun, and our Center as an ideal place from which to advocate for change. It is nothing less than the agenda of our lifetimes.

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