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Intersectionality and the Internet: Race, Class, Gender, Sexuality, and the Digital

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Abstract

Over the past 20 years, the broad field of digital media and technology studies has been influenced by theories of power that include intersectionality as a key organizing theory and method. In this article, we review the major contributions across multiple fields of study, particularly critical race and digital studies, to the examinations of the Internet and technology that use intersectionality as an organizing logic. Applying intersectionality as a conceptual lens into digital technology design, dissemination, and use has aided in findings that the computing industries are ill-equipped to map the world, its conditions, or its inhabitants. In reframing this sociocultural complexity as solvable by mathematics, statistics, code, and data, these industries make dehumanizing political and ethical decisions through reduction—from people and culture to content and abstracting the world to data. In the process, they intentionally reify long-standing inequities in the name of efficiency, progress, and profit and fail to capture what is necessary to improve life in socially, politically, and environmentally just ways. While intersectionality theory is complex, its intricacies afford critical culture digital scholars the epistemological tools and methodological insights

needed to highlight that people, communities, and the environment must be considered prior to, in the midst of, and downstream of technoculture's mechanistic, rationalist, extractive desires or capitalism's desires for profit through exploitation.

INTRODUCTION

In this article, we review the history of intersectionality as theory and praxis in the broad fields of social science, sociology, digital media studies, Internet studies, communication, information studies, digital humanities, and science and technology studies. As the fields of critical code studies, algorithm studies, and critical artificial intelligence (AI) studies emerge alongside platform and surveillance studies, we see intersectionality as a crucial analytic need—one that deepens understandings of the social, political, and economic consequences and affordances of these computational systems. Race, class, and gender remain central to understanding the politics, perils, and possibilities of the Internet and its components, particularly because these digital technologies emerge within these power hierarchies.

Our approach to this topic draws from an overview of key scholarly contributions that can be loosely understood as a second wave of critical Internet and digital media scholarship, roughly contiguous with the conceptual frame of Web 2.0 as a term defining the increased access to the Internet and online technologies thanks to advances in accessibility, affordability, connectivity, and computing technologies. These contributions highlight a frustration with the then-prevalent conceit that technologies created users and that Internet cultures were universal. Instead, the research we examine in this article takes intersectionality as a theory and an analytic to examine the interweaving of offline and online/technical identities, and, in the process, augment the critical capacities of developing fields such as digital sociology, Internet studies, critical social scientific studies of technology and society, and beyond.

First, Cooper's (2015) canonical work, "Intersectionality," in the *Oxford Handbook of Feminist Theory*, outlines the debates in the fields of social science over the possibilities and limits of intersectionality as a framework for studying race, class, gender, and sexuality. Recently, Luna et al. (2024) carefully covered the history of Black feminism and intersectionality, and we point readers to this important article that examines the full range of debates and arguments within the field of Black feminism. We, too, more narrowly attend to the genealogies of Black feminisms across Internet and digital studies, recognizing the parallel and orthogonal reviews of the field by Hamilton (2020) and Gangadharan (2024). We also argue, like Cooper (2015, p. 405), that "intersectionality has a teleological aim to expose and dismantle dominant systems of power, to promote the inclusion of black women and other women of color and to transform the epistemological grounds upon which these institutions conceive of and understand themselves." As technology and media researchers with minoritized identities, we were confronted with social scientific and media research claiming that digital technologies somehow transcended race and other identity categories. We found some solace in Black feminist theory and feminist science and technology studies, specifically, Collins's (1990) careful delineation of the interlocking relations between identity, environment, and institutions alongside Harding's (1990) essay on a feminist standpoint epistemology of scientific knowledge. Taken together, these concepts formed one of the key pillars for intersectional scholarship on digital technologies, where the research we discuss in this article begins from the premise that information and communication technologies create social virtualities that retain cultural ideologies born of political, physical, temporal, economic, and social beliefs. We embrace intersectionality as a method of approaching the study of the technical and technological identities of Black communities online, leading to new understandings of

the many movements and quotidian dimensions of Black online life and culture (Noble & Tynes 2016a, Brock 2020, Gray 2020, Lopez 2020, Gipson et al. 2021, Steele 2021). We expand Cooper's lens on cultural and social institutions to include the information technology industries and their products, the political economies of technology as evinced in their collusion with the state, and the digital practices of their stakeholders.

Intersectionality and the Internet was first meaningfully taken up by Brock, Noble, and Tynes (Noble & Tynes 2016a) with a call for the edited collection titled *The Intersectional Internet* that sought to engage and organize a range of scholars building out the nascent field of new media studies. Because it was presumed that minoritized computer users were not robustly represented online, early feminist and critical Internet/new media scholarship (Kang 2000; Nakamura 2000; Eglash 2002; Kendall 2002; Leonard 2003; Everett 2004, 2009; Banks 2006; Byrne 2008; Daniels 2009; Chun 2009) examined instances of race, gender, or sexuality in digital environs, but as identity categories rather than through intersectionality's more complex theorization. As the Internet moved into its Web 2.0 phase, where platforms, services, and social media began to supplant older technologies of digital sociality, intersectionality moved to the fore as a means of theorizing multiple influences on digital and Internet practice beyond productivity, mass media, resistance, or consumerism, to include capitalism, gender politics, labor, and empire.

Gray's (2014) groundbreaking research into Black women gamers in multiplayer console games provided an impetus for understanding that Internet and digital users brought their multiple identities to their online practices. Noble & Tynes's (2016b) *The Intersectional Internet* was the first edited collection to directly address intersectionality and assembled leading thinkers at the intersection of race, gender, and technology, covering a wide array of sociological themes that were emerging online as technical barriers to entry were lowered. These ranged from cultural interactions of information technology to media and representation, cultural studies, and political economy.

The Intersectional Internet's contributors theorized that these new online technologies were structured by offline life and experiences, with intersectionality providing a more thorough methodological approach to the study of issues affecting users of Internet and digital platforms—from hashtag activism and #BlackLivesMatter (Tynes et al. 2016) to the trouble and possibilities of antiracism in white women's online activism (Daniels 2016). Steele's (2016) early work on Black women's online gossip blogs as a way of talking back and reclaiming power laid the groundwork for her award-winning book, *Digital Black Feminism* (Steele 2021). Tanksley's (2016) early and impactful work using intersectionality to apprehend Black women's experiences on social media, and her calls for "Black feminist media literacy," emerged again in a call for Black feminist technology studies eight years later, foregrounding the importance of intersectionality as a lens by which we can understand the interplay between activism online and the need for students to develop the "critical race techno-literacies needed to disrupt anti-Blackness" (Tanksley 2024, p. 2179). Many more scholars included in the volume engaged intersectionality as an analytic for understanding a range of social problems, from the work of commercial content moderators by Roberts (2021) to online dating platforms by Niesen (2016), to state surveillance through social media companies examined by Bulut (2016, 2020), and representations of people of color in popular culture as studied by Washington (2016) and Korn (2016). Mejia (2016) examined the intersectional epidemiology of digital infrastructure that remains relevant and crucial to thinking about the consequences of technology and environmental toxicity. A forthcoming second volume of *The Intersectional Internet*, Volume 2, is among a host of new books and articles that suggest scholars are continuing to grapple with many approaches to the study of technology using intersectionality as a lens.

Intersectionality in digital media studies extended beyond the study of Black women's lives to become a framework for understanding the nature of power in many different digital contexts, and

it is an enduring dimension that has also impacted the fields of computer science, engineering, and beyond (Szlavi et al. 2023). We point here to the more recent work that extends intersectionality to the study of natural science and technology, arguing that intersectionality can enhance the experimental efficiencies of science (Nielsen et al. 2025). Embracing the contributions of intersectionality in the social sciences and humanities can deepen approaches and analyses in science, technology, engineering, and mathematics fields. Indeed, digital media studies scholars, writ large, have bridged the gap and profoundly impacted information science, computer science, engineering, the natural sciences, and public health while forcing a reckoning with the disparate and socially unjust ways that information technology development—from the Internet to hardware, software, platforms, and the material and cultural dimensions of it—has taken hold of the Western imagination and institutions (Hicks 2018). It is impossible to explicate any development and use of technology without an understanding of people, social systems, the environment, and more. Intersectionality is crucial to understanding the interplay of people and technology as systems where justice must be attended to across multiple axes of power.

Intersectionality allows for intricate theorization of the experiences of digital practitioners, and broader social, political, and economic contexts and systems shaped by power. It can be used to intervene and reimagine information and communication technology use and design (Daniels et al. 2019), even as the field of communication abandons the theorization of race in training critical thinkers to meaningfully engage these ideas (Chakravartty & Jackson 2020). For the past two decades, a variety of everyday technologies that we describe more specifically as surveillance technologies (e.g., search engines; advertising technology; facial recognition systems; social media platforms; wearable technologies like bio/fitness trackers; the Internet of Things, such as smart refrigerators, smart TVs, and networked appliances like Ring doorbells; and the myriad social tracking software that has become the foci of venture capital investments such as Palantir and Flock), as well as the emergence of large language models (LLMs) and chatbots, have been increasingly challenged using intersectional frameworks by the many scholars we cite in this article. The field of intersectionality and critical digital studies has made surveillance of a variety of sorts central to the field.

INTERSECTIONALITY AND CRITICAL DIGITAL STUDIES

Black feminism emerged as a framework for Black women in the United States to name and develop political analyses of their experiences as girls and women living under racial, economic (capitalist), and patriarchal (gender) oppression, powerfully expressed by the Combahee River Collective (1977). Identification as, and with, Black women as an organizing logic was central to the effort to organize for the liberation of Black women from racial–sexual oppression—work that has not been finished. Indeed, all constructions of Black feminist reality stem from a Black woman's standpoint, and this standpoint is intersectional at the core. We understand and can apprehend intersectionality as theoretically anchored in the work of Patricia Hill Collins's (1990) *Black Feminist Thought*, later revisited by Collins (2015), two key texts cited by those who study the Internet and digital media.

We also recognize the antecedent traditions of many radical Black feminist scholars and thinkers to Black feminist standpoint theories from early abolitionist texts by Maria Stewart (1831) and Sojourner Truth (Robinson 1851) to Angela Davis's (1983) work on unique forms of oppression tied to race, class, and gender. Kimberlé Crenshaw (1989) first coined the term "intersectionality" during the third-wave feminist movement that helped define how the power of systems converges to create disparate outcomes for Black women under the law. Black feminist thought includes the naming of systems of power that define the conditions of Black women's

lives, and these locations are not fixed, can change, and are often heavily contested in various technogeopolitical realities—and by this, we mean that there is an uneven distribution of power in the modern assertions of technology as a means of social control around the world, unfolding in different socio-political realities. For Collins (1990), Black women's ability to name systems of interlocking oppression, or the "matrix of domination," allows Black women to specifically define themselves in all their multiple identities—race, class, gender, sexuality, dis/ability—and, thus, they are more powerfully able to articulate and enact a politics of resistance and liberation in their lives with analytical frames to make sense of their oppression. Intersectionality as Black feminist theorization provided a more complete framework of critique of complex systems of power and control in their lives, including capitalism, racism, and patriarchy; in the social experience of life in the United States; and in the articulation and organization of Third-World solidarities. Cooper's (2015) call to engage intersectionality broadly has been meaningfully taken up by digital studies scholars, as we now review.

Digital and Networked Black Feminism(s)

The field of digital technology studies within various disciplines has emphasized different axes of power over the past 50 years, for nearly as long as the Internet has existed in the United States. Early theorists of Black women's experiences online, and makers of online culture, included the Crunk Feminist Collective and the early blogosphere, where Moya Bailey first coined the term "misogynoir." Bailey's key works over a decade detailed the long history of a specific type of misogyny against Black women—hers is a powerful voice advocating for queer, transgender, and Black feminist power online (Bailey 2021). Daniels's (2009) early work *Cyber Racism* carefully traced the contours of race and power online and provided a feminist and antiracist framework for studying power on the Internet. Noble's (2012) early work used Black feminism, intersectionality, and political economy to theorize the antidemocratic, antisocial, and dangerous dimensions of monopoly technologies like commercial search engines. Noble's (2012) dissertation was an early and widely recognized contribution that theorized that algorithms and computer code were not value-neutral and were, in many instances, anti-Black and misogynistic in their implementation. In her subsequent publications, she showed that algorithms and AI-driven systems reflect cultural, social, economic, and political values. We recognize this work, beginning as early as 2011, as the first contribution in the literature to explicitly do so using intersectionality as theory and method to define algorithmic oppression, which several scholars built upon over the following decade. While she is often cited as having shone a light on the ways in which algorithmic coding can harm Black women, this was not her primary theorization, but rather an example that demonstrated the degree to which the architectures of the Internet and knowledge or information systems are subject to racial capitalism and monopoly power, which are expressions of hierarchical, intersectional power. At the time of her contribution in 2012, algorithms were broadly conceived of as mathematical formulas, not as social and political constructs that were also racialized and gendered. We now have a thorough review of the literature on digital discrimination spanning intersectionality, decolonization, carcerality, bias, and fairness, and we recommend the literature review of these issues by Gangadharan (2024) be read alongside this review.

The convergence of media, technologies, and users expanded the possibilities and our own understandings of human interactions with computer technologies, a theme written about by social informaticists, information science/studies scholars, and community informatics scholars of the early 2000s. Everett (2004) uses the Million Woman March to illustrate these trends. Steele (2021) and other Black digital feminists explore Black women's blogging and community building practices. Gray (2014, 2020) and other Black gaming scholars highlight the power of play to protect

space and energy. While scholars have used phrases like "intersectional feminism" to express their work, these projects often fail to check and challenge privileges because the focus is on attaining power. D'Ignazio & Klein's *Data Feminism* (2020) is an important anthology, centering key voices using intersectionality and multiple feminisms in the field of data, digital and information studies.

Black cyberfeminism (Gray 2017) detailed the ways in which online spaces, and video games in particular, were reflections of structural and intersectional oppression. Tressie Cottom (2016) propelled the field of Black cyberfeminism forward and introduced the concept to a variety of fields (including sociology) in her 2016 chapter, "Black Cyberfeminism: Ways Forward for Intersectionality and Digital Sociology." Cottom acknowledged the utility of a cyberfeminist logic to make sense of how digital technologies enable a particular kind of participation and access to mediated institutions. Social media, gaming, and other technologically enhanced tools allow users to go beyond civic, political, or economic participation, whereas previous media were often bound and limited to a single use.

In early feminist technology studies, Black feminism and intersectionality were absent of consideration, making the critical digital studies work a breakthrough in this domain, particularly Noble's explicit use of intersectionality to critique the political economy of the Internet. Building on the work of early Black tech critics from the blogosphere—Cooper, Trudy, and Bailey—and the work of Nakamura and Daniels, a direct convergence begins to appear in the literature from 2012 to the present. What Black women contributed to this conversation (i.e., Black cyberfeminism) was that Black feminism was used to theorize the Web differently across academia, investigative journalism, and online activism. Black women, queer, and nonbinary participation in and around digital technologies transformed the field of digital technology studies. Eventually, the development of technology critique, informed by intersectional feminism, influenced the development and practice of technology design.

Design Justice as Intersectional Praxis

The work of digital technology design critique via intersectional analysis and its mirror image, the praxis of designing for justice—for, with, and by communities of people whose needs and whose existence itself capitalist and commercial digital technologies have considered as afterthoughts (when considered at all)—is a key area of work of numerous scholars and scholars/builders, including (but not limited to) Ames (2019), Copeland (2022), Costanza-Chock (2020), Dame-Griff (2023), Eubanks (2018), and Lawrence (2024), among many others.

In their work, these scholar-critics, many of whom are themselves technology designers, builders, and developers, attend to the gamut of factors influencing the development, deployment, use, and uptake of digital tech. These include aspects as varied as legal and technology policy frameworks; developer practice; workforce representation; design aesthetics; disability; and varied communities' reception, (re)use, and repurpose of use of digital tech to serve their needs (Roberts & Jesudason 2013). These scholars frequently critique extant and past digital technologies and also engage in (re)imagining and actively building a digital world better suited for their communities of concern. For example, Christian's (2016) use of intersectionality to examine the power structures that queer YouTubers face helped us understand what being a woman, queer, and Black means for these performers, which propelled the development of Open Television, an award-winning online media platform that features intersectional stories and storytellers, films, and Web series. Sweeney's (2016) work discussed the architecture and representation of Microsoft's Ms. Dewey, an actress hired to serve as a human avatar (in an online project similar to the early Web butler, Ask Jeeves, or through the representation of their commercial search agent as a "sexy librarian") that provocatively answered questions for online searchers. Sweeney identified the racialized and gendered performativity of digital avatars like Ms. Dewey that are used as a part of the digital

economy of selling online services and products vis-à-vis commodifying the cultures of women of color. This commitment to critique and to design praxis is itself an act of political resistance and reframing, with sites of concern as varied as datasets (Gebru et al. 2021, Scheuerman et al. 2021), LLM corpora and the resulting AI chatbots (Bender et al. 2021), wearables (Noble & Roberts 2016), and even the scale at which design and deployment of digital technology are carried out (Hanna & Park 2020). The means of (re)imagining and (re)designing, too, may diverge to speak to multiple modalities and ways of knowing, as we see in Varon, Costanza-Chock, and Juliano's "The Oracle for Transfeminist Technologies" card deck, or the Design Justice Network's (2026) Design Principles, available in roughly 20 languages at the time of this writing and with thousands of signatories who have committed to them.

Critiquing and building become critical for any remediation or move toward more socially just and culturally appropriate and/or liberatory digital tech. Far from digital tech being a site of neutral or objective design, in *Race After Technology*, Benjamin (2019) explores how digital technologies replicate racism and other forms of inequity through coding and design. She makes a compelling case, like others (Browne 2015; Noble 2013, 2014, 2018; Broussard 2018, 2023), that racism is not just an output of technologies and their unintended consequences; it is also obfuscated by the design process.

Haimson et al. (2021) traverse time and technologies past to (re)write a trans history of Tumblr, exploring its design and technical affordances, as well as the community members themselves, and what became possible for trans people at those places of convergence, noting that Tumblr's trans bloggers of color were early to expand Crenshaw's (1991) concept of intersectionality to include transphobia and racism working together to amplify marginalization of trans people of color. Bloggers described providing support for and receiving support from others on Tumblr, often related to another identity (e.g., race or ethnicity) that intersected with their trans identity. For scholars concerned with intersectional framings, the work of telling the history of digital technologies may mean a reinscription of self and others when mainstream tellings have remained silent (Hicks 2018, Dame-Griff 2023).

Tech Labor, Digital Labor, and Marxist Critique from an Intersectional Lens

Some political economists of digital tech, in the tradition of radical Black feminist Marxists such as Angela Davis, nevertheless contend that any liberation of tech is incomplete without attending to matters related to inequalities driven and exacerbated by class, race, gender, and global economic disparities (Robinson 1983, Fuchs 2018). This is an intersectional approach that brings much needed nuance and specificity to the study of digital labor, a scholarly dialog long focused solely on class politics and labor exploitation.

While traditional and largely white male Marxist political economists have been rightly criticized for their inability or unwillingness to introduce a race or gender critique into their analysis, scholars we cite in this domain often focus their critiques on the labor processes expressly at the intersections of class, nationality, citizenship, ethnicity, and the global racialized and gendered labor market upon which the Internet, and big tech in particular, relies (Gregg & Andrijasevic 2019, Bulut 2020). They may also critique the labor that goes into participation in the attention economy, drawing parallels to unwaged and low-waged care labor, gendered labor, domestic labor (waged and unwaged), and other kinds of work and workers to shed light on the circumstance of those who labor in, or in proximity to, tech. Influencer labor (Abidin 2021), streaming labor (Duffy 2017), data cleaning, and other forms of content creation are also under discussion.

The organization of the tech/digital labor market also receives attention. Scholars are examining the nature of gig work, precarious work, just-in-time scheduling, outsourcing, independent

contractor status, and other labor arrangements typically found on or using apps or in and around the tech sector(s), noting how these arrangements both rely upon and exacerbate inequities predicated on gender, race, nationality, location, and other aspects of individual and collective identity, which may introduce other, perhaps unexpected, forms of agency and resilience worthy of discussion (Amrute 2016, Roberts 2021, Beltrán 2023). These critical scholars trouble notions more aligned with a minority-world Marxist critique that sees only alienation and exploitation as ways of categorizing digital labor. Rather, these scholars seek to complicate or question paradigms that remove agency from workers, recentering instead struggles, narratives, and histories of workers of the majority-world (Raval & Lalvani 2022, Zhang 2023).

This scholarship often draws connections to other historical and contemporary forms of wage work to demystify tech exceptionalism and its novelty, suggesting instead that older forms of resistance may well continue to be effective today and that the lessons of the past with regard to labor as a site of resistance still matter. As a part of their praxis, these scholars may directly engage with labor communities on matters such as worker rights, immigrant rights, labor organizing, and similar endeavors (Dubal 2017, Villa-Nicholas 2023). Bulut (2020) attends to the contradictions of digital labor in Silicon Valley, where he examines the "dream jobs" of white, male video game designers who are dependent upon a racialized, gendered, and exploited global workforce to realize their technological fantasies.

Digital Gaming, Representation, and Intersectionality

Brock's early work in race and gaming is influential in the creation of Black game studies, which is an intersectional project at its core. Brock's (2011) analysis of Resident Evil introduced many to his approach in reading and analyzing gaming as a dynamic visual text. Critical technocultural discourse analysis "combines interface analysis of a tech object, a discourse analysis of the ways Internet users articulate themselves with respect to the object, and a critical cultural theory framework" (Brock 2011, p. 431). His framework and subsequent analyses of gaming and social media show how racial and gendered imagery shapes users' understandings of whiteness and media racial formations. For gaming in particular, race is represented through a variety of infrastructures, from the software to play mechanics, in and out game narratives, and larger discourses around the medium. Gaming, as an intricate space, requires this robust level of study to make sense of how whiteness locks us all into an inescapable value system that scholars like Nakamura (2002, 2008) examine in the (re)construction of race online. Gaming offers a way to see this happening in real time, and the virtual simulation affords the possibility of us playing it out to see what has transpired in real life. This racial tourism offers a glimpse into the world of gaming; these themes are more than just play. In the reduction of Blackness to the digital, we reduce elements of holistic and intersectional Black life. Nakamura (2000) speaks to this concept in her work on racial tourism and cybertyping in video games. Virtual technologies not only allow players a means to travel into spaces seen as exotic, foreign, dangerous, etc., but also provide users the ability to try out otherness (Leonard 2003). Bulut's (2016) careful intersectional analysis of video gaming culture, identity, and ideologies has extended our understanding of networked technologies like Facebook and Twitter under authoritarian regimes, an important referent for making sense of digital technologies under the surveillance state.

Digital media tools and technologies have been central to providing space for realizations, advocacy, resistance, and other forms of transforming life. Intersectionality has been instructive in bringing a more nuanced understanding and set of possibilities for Black women, girls, and many other communities to engage with video gaming as a site of resistance and liberation (Gray 2020). In *Intersectional Tech*, Gray (2020) urges users to think about the complicated relationships they

have with the digital. Using video games, Gray discusses how the mundane nature of play can be radical. Digital scholarship on video gaming posits productive uses of rage to generate peace and calm. In digital video game spaces, especially those crafted by Black women, there is a process to engage with rage so often quelled by society. Black women often have to undo the demonization they experience for having rage, as systems often remind Black women that their anger and rage have no legitimacy.

With respect to queer gamers (or gaymers), their existence in the heteronormative taxonomy of gaming is a radical act, too. Many of them use gaming as a way to play not only the game but also through, in, and around different genders and sexualities (Gray 2018). For Black queer women in Xbox Live, many use gaming as not just a means to connect with others, but also to use play as a form of resistance to patriarchy, a type of resistance referred to as "transgressive play." Aarseth (2014, p. 132) explains transgressive play as "a symbolic gesture of rebellion against the tyranny of the game, a . . . way . . . to regain their sense of identity and uniqueness through the mechanisms of the game itself." This framing of resistance is essential to explaining the experiences of women of color in gaming communities (Gray 2018). Many of them express that they just want to exist, so in defining the parameters and borders of their communities, they can develop a strong sense of self in relationship to others. While these spaces are not always safe, gaymers continually find ways to protect their communities, most evident during the height of Gamergate, a transmediated harassment campaign directed mostly at women in gaming but also at others who dared to make gaming more inclusive. While there were many harms (virtual and real-life) experienced during that harassment campaign, marginalized users engaged in a radical praxis of protecting each other and their communities using the same technologies that were attempting to harm them.

Intersectionality and Social Media

Digital media scholars have begun exploring the impacts of intersectionality, intersectional identity, and the role that media has had on these (historically and contemporarily). In 2013, CaShawn Thompson created the hashtag #BlackGirlMagic to "celebrate the beauty, power and resilience of Black women" (Toliver 2019). The utterance of this phrase is the manifestation of Black women's ancestral power in the physical realm. Realities of intersecting identities might lead to intersecting oppressions, but intersecting identities may also lead to joy like #BlackGirlMagic and the creation of spaces and spheres online for Black women (Gipson 2020). Third spaces/places, affinity spaces, and hush harbors were realized in social media, as these spaces were created not for the white gaze but for building community among Black folks online (Steele 2021).

Early studies of Black Twitter (Brock 2012; Sharma 2013; Clark 2014; Florini 2014; Jackson 2016; Jackson et al. 2018, 2020) excavated the use of hashtags and subsequent digital, communal space to tell stories. Hashtag activism became a central theme of many intersectional, Black feminist, and critical digital media scholars. Jackson et al. (2020) argued that intersectionality is central to organizing online movements using hashtags to call for justice rooted in radical, Black feminist, and LGBTQ (lesbian, gay, bisexual, transgender, and queer) traditions. The Internet has become inseparable from and fundamental to the organization and mobilization for democratic, civil, and human rights under many hashtags: #BlackLivesMatter and #Ferguson are but two of many hashtags used to study social media and citizen journalism (Richardson 2020) particularly on platforms like X (formerly Twitter). Hamilton's (2020) review of the field of critical race and digital studies covers the previous deficit model approaches of engaging with race online, including the embrace of colorblind ideologies, and they documented a series of intellectual turns that included critical race studies as a way to articulate the structural dynamics and processes that have formed the contemporary basis by which we theorize race, class, and gender online.

Digital media scholars and Afro-optimists also made space for the mundane, the ratchet, and the banal on the Internet and in everyday life. Brock's (2020) work is pivotal to expanding our thinking on what Black folks are doing compared with what is expected of them through the gaze of respectability politics. He argues that libidinal economies—the joy, fantasy, and cultures of desire, attention, and fun—are often overshadowed by technopessimism too. Brock illustrates that intersectional expressions are inclusive of regular emotions and activities: joy, sexuality, desire, humor, vilification, and ratchetry included. While scholars have been intentional about highlighting and illustrating the harms associated with structures of domination around race, class, gender, sexuality, disability, etc., intersecting realities are not limited to structures and infrastructures of oppression. Black joy can also be used in service of criticizing or dismantling supremacist structures. Black people who navigate their intersectional identities often do so loudly, and digital technologies have afforded these opportunities and possibilities. By sharing experiences with one another via social media, additional layers are afforded to Black people's already vast and dynamic communities. As Steele (2021) articulates, everyday historical spaces that Black women previously occupied, such as beauty salons, churches, and front porches, have become pockets of community inside X, Instagram, and TikTok.

The intent of Afro-optimism was to disrupt racialized and gendered hierarchies that failed to see Black women and LGBTQ users as whole people, and expressions of joy are a reminder that people can dictate and decide the terms of their own humanity online, as evidence by a variety of viral campaigns. Social media continually transmits intersectional harms, oppressions, and stereotypes and inundates the public with discourses of power that limit the fullness of Blackness. Recall #BlackGirlMagic, #BlackBoyJoy, or #BlackExcellence: While these hashtags might not capture the intersectional fullness of Black life or might limit Black life to neoliberal or consumerist pursuits, they capture an element of reclaiming our own lives on our own terms. Lu & Steele (2019) remind us that happiness and joy are distinct concepts in both their origins and their manifestations in African American cultural discourses, and the cultural complexities of navigating both are profound.

Clark (2025) further amplifies the centrality of Black Twitter (which is still a cultural term of art, albeit the platform has been renamed X) for culturally expressive thought and Black women's activism when mainstream media continually fail to document Black stories or archive Black life. Black women have been able to mobilize their political actions online and engage in powerful acts of digital resistance. A "new civil rights movement" has been afforded communities through hashtag activism (Freelon et al. 2016). Jackson et al. (2020) document the role of social media in activism and in counter-narrating truths and lived realities from marginalized communities who are excluded from legacy media systems. Taken together, their work explicitly calls for researchers to engage intersectionally in the study of online social movements.

Algorithmic Inequalities, Intersectional Algorithms, and Algorithmic Culture and Bias

Mainstream scholarship continually fails to explore the holistic nature of intersectional Black life. Recognizing this, many users of digital technologies are attempting to influence their own timelines and feeds to make them more reflective of who they are and what they want to see in the world. Black feminist thought, intersectionality, and critical theories of race offer ways to theorize the Internet as a value-laden technology whose organizing logics extended beyond binary coding to troublesome, dangerous, and pathologizing value systems that erode the possibility for Black people to define their lives online. This extends to the material reality of Black life through predictive analytics, AI, and digital profiling that continue to remake the world in myriad ways. Early

digital studies scholarship reinforced the idea that the Internet and digital platforms were transformative and liberatory. Critical digital theorists uncovered how digital technologies were compounding social, political, and economic inequality and oppression, in the United States and beyond.

In the past two decades, we have become more aware of hidden software and social engineering experiments deployed by the "big five" tech companies (i.e., Microsoft, Meta/Facebook, Apple, Alphabet/Google, and Amazon) on publics around the world, many with devastating individual and societal harms, from online harassment that Black women are 84% more likely to experience (Amnesty International 2018) to voter suppression and disenfranchisement (Overton 2020) to predictive policing and algorithmic denial of opportunity in employment, education, healthcare, insurance, housing, and more (O'Neil 2017, Noble 2018, Benjamin 2019, Joyce et al. 2021, Buolamwini 2023).

Intersectionality as a framework for interpreting the actions of tech companies has been meaningful to the "techlash," including the fields of ethical AI and tech criticism. Scholars helped usher in a field of intersectional Black feminist technology studies (Noble 2016, Tanksley 2024), where Tiera Tanksley and Brooklyne Gipson continue to urge us to be aware not only of what digital technology and social media algorithms do to Black women, girls, and communities, but also of how they also work to manipulate and contribute to misinformation campaigns (no matter how serious, egregious, or small). Intersectional Black feminism is also concerned with the entire ecosystem of digital technologies and their impact on Black life: from mining and extraction of blood minerals in southern Africa and forms of neocolonial economic oppression to the development, outsourcing, and experimentation of hardware and software on Black communities. And it includes the convergence of important research on race, media, and technology, which includes the hypertargeting of Black people for technology and digital media consumption (Freelon et al. 2016; Noble 2016, 2018; McIlwain 2020; Benjamin 2019). While many different formations and iterations of social justice have been approached in the study of technology and society, what has been missing from the mainstream scholarship on technology, and AI in particular, has been the moral frameworks that bend toward social justice (Bui & Noble 2020).

Many fields are devoting more energy, attention, and scholarship to making sense of the sociocultural and political implications of technology, algorithms, AI, labor, design, use, and the ethics by which they are created and deployed. While companies might argue that there is no maliciousness behind these tools, we see mountains of evidence to the contrary, as reflected by all of the scholars cited in this review—in the litigation companies face, the political consequences of their collusion with the state, labor exploitation, weaponization of technologies in service of authoritarianism, creation of digital propaganda and AI slop, exploitation of women and children, environmental crises, and the many abuses reported by users of platforms, among others. Algorithms, generative AI, and various forms of predictive technology are deployed under the guise that they can improve our lives. Yet scholars and community organizers (e.g., the Algorithmic Justice League, Amnesty International, the University of California–Los Angeles Center on Resilience & Digital Justice, Free Press, Human Rights Watch, the Stop LAPD Spying Coalition, Surveillance Watch, the Cyber Civil Rights Initiative, the Pasco Coalition, the University of California–Los Angeles Center for Critical Internet Inquiry, Media Justice, the Black Tech Agenda, the American Civil Liberties Union, Upturn, and a host of civil society organizations that provide reports and testimony regularly to the harms of tech) often provide evidence to the contrary and urge that we be hesitant in ubiquitous and uncritical adoption because so many of these technologies cause harm to both communities and the environment. A groundswell of scholars and communities are calling for greater accountability and, in some cases, abolition or prohibition (Hogan 2015; Joyce et al. 2021; Gebru & Torres 2024; Buolamwini 2023; Benjamin 2019; Noble 2018, 2019).

Intersectional Surveillance

While protecting joy and peace have been prioritized lately in Black media, this does not reflect Black folks' advocacy for protecting users in and around digital and social media technologies. Black folks use savviness, wit, and humor work in service of advocating for improving practices in digital technology use, design, and deployment. While some might find our collective humor off-putting and offensive, this praxis affords Black folks the ability to continue fighting against oppressive structures. One such oppressive structure is surveillance technology. Scholars like Browne (2015) illustrate the challenge of pushing back on colonial practices of experimentation on Black people and communities that have come to be accepted as normative. In *Dark Matters*, she outlines "racializing surveillance" to name how surveillance reifies racialized practices and colonial hierarchies. More specifically, it is a phenomenon in which "surveillance practices, policies, and performances concern the production of norms pertaining to race" (Browne 2015, p. 72) and exercise a power to draw boundaries along racial lines. Racializing surveillance is a technology of social control that is dynamic, in the sense that it relies on various techniques (dependent on space and time) in order to maintain a social structure that privileges whiteness. At the core of how surveillance technologies work is anti-Blackness. Noble (2018, p. 1) explains the power of algorithms to "reinforce oppressive social relationships and enact new modes of racial profiling." She terms this process "technological redlining," in concert with Gilliard's (2017) "digital redlining," which warns about surveillance in educational technology platforms. These terms, technological redlining and digital redlining, describe how historical data reflecting racial disparity (e.g., housing discrimination, lack of civil rights, educational disenfranchisement, wage disparity) are often the same statistical data used to train algorithmic models, which rarely account for social and legal discrimination as the foundation of such data. Indeed, most datasets used to train models do not attend to the politics and power relation that data represent and are framed as reflecting a neutral past and present.

The movements for Black lives made many of us keenly aware of the role that surveillance has had in Black communities, as social media platforms were scoured by law enforcement to identify protesters and facial recognition and drone technologies were adopted by police to scan crowds lawfully exercising their First Amendment rights and build databases of surveillance on Americans involved in twenty-first-century civil rights activism. Scholars are also examining the role of countersurveillance, or watching the watchers. In writing about the embodied narratives of "sousveillance" (Mann et al. 2003, Browne 2015) practiced by "cop-watchers," researchers find that the power of bystander videos lies not in the camera or in the number of resulting sanctions against police officers, but in their possibility of prevention, of checking state authority. These embodied narratives are understood as balancing the authoritarian gaze of the government through enacting citizens' right to look. Canella (2018) argues that while video activism is an important part of any movement's communicative strategy, it cannot alone solve the strained relations between law enforcement and communities of color. On the contrary, he claims that the increased visibility of police brutality against African Americans will further strain the relationship between the state and activists. While countersurveillance alone might not be enough to disrupt the strong arm of the surveillance state, Black folks, in particular, want to feel empowered to do something.

Conclusion: The Future of Intersectionality on Technology Criticism, Making, and Practice

A key aspect of intersectionality is its focus on the intersection of identity and infrastructure. While we are bombarded with technosolutionism, intersectionality urges that we keep humans, inequality, and justice at the core of technology criticism, development, and even tech abolition.

Digital media scholar Broussard (2018) cautions against "technochauvinism," a term she coined to refer to the belief that technology is always the solution to social problems. As Broussard (2018, p. 87) says, "Computers are good at some things and very bad at others, and social problems rise from situations in which people misjudge how suitable a computer is for performing the task." She urges us to stop defaulting to technosolutionism for problems of the human condition and encourages us to ask ourselves if technology is actually the right or best tool for the task. In other words, we should stop working from the assumption that technology must always be part of our solutions set in order for those solutions to be viable.

Critical technology scholars help us understand the outer limits of technology and AI. Technology and datafication, at their worst, deliver a flattening of the human experience and truncate the unlimited set of possibilities that cannot be predicted, profiled, and stabilized for machine learning. A series of scholars and early researchers began foregrounding intersectionality as a more complex way of understanding the materiality of digital technologies and the experiences of users online (Nakamura 2000; Leonard 2003; Chun 2009, 2013; Daniels 2009, 2013, 2016; Noble 2012; Sweeney 2013, 2016), which we argue are among the earliest seeds of the formation of a field of ethical tech and ethical AI, to which Black women using intersectionality as a framework have contributed significantly. These include Buolamwini & Gebru's (2018) Gender Shades paper, which detailed the ways that facial recognition was dangerous and unreliable, particularly for Black women—a technology arguably designed as anti-Black (Nkonde 2019). Buolamwini's (2017) cultural work on algorithmic justice has contributed to a series of key activist movements around banning facial recognition. Gebru and Torres's contributions to understanding the role of race and gender in tech, stemming from Silicon Valley and the field of computer science and the eugenicist ideologies of tech founders, has been deeply instructive for scholars of AI, technology and society, especially in understanding a range of extremist ideologies that pervade the tech industry (Gebru & Torres 2024). Black women computer scientists have taken up and extended intersectionality and Black feminism into their fields that otherwise might not understand the power of such an analytic. Intersectionality has also become a lens that, while not always explicitly named, helps us to understand the future of technology-driven harms, from data centers and the environmental crises in projects like LLMs (Bender et al. 2021, Hao 2025) to the exploitation of global labor markets; forms of statistical data and pattern discrimination (Chun 2021); and the dangers of AI in many aspects of social, political, and economic life. Intersectionality is an analytic taken up broadly by researchers to understand power, privilege, disparity, and marginalization in all forms of scientific research, particularly that of science, technology, engineering, and mathematics fields, demonstrating that it has been accepted beyond sociologists and digital media scholars as a way to approach many epistemologies of natural and life science, too (Nielsen et al. 2025).

We note with great enthusiasm a new generation of scholars attendant to the issues we have sought to highlight, who have dedicated themselves to the intellectual, theoretical, and political endeavor of broadening once-narrow definitions into a capaciousness capable of more adequately discussing phenomena and culture at intersections of race, praxis, class, gender, and sexuality. Winstead (2023) directly calls upon the need for this broad formation crossing disciplinary, methodological, institutional, and community- and time-based boundaries for the documentation, sense-making, and knowledge production in which he and others engage, expressly from a Black lens and perspective. Building on the traditions of many intersectional theorists in digital humanities (Risam 2015, Gallon 2016, Noble 2019, Steele et al. 2023), he weaves from a lineage to include those informed by African American studies, Black feminist thinkers and doers, writers and scholars, and kin and community as necessary to address the kinds of inquiry that include scholars who may "study race, racism, and resistance as a mode of inquiry, while others study Blackness both in its mundane and fantastical natures" (Winstead 2023, p. 41) and the ways in which Black

women's and girls' memes and Black cultural logics give us a deep understanding of Internet cultures (Stevenson 2022). The intersectional work that Winstead and his coauthors Steele and Lu describe and invoke therefore demands a broad and deep knowledge and recognition of many modes of inquiry and participation.

New fields are emerging. Critical race and critical codes studies, Black software studies (McIlwain 2020), and even the sociology of AI claim that scholars of social inequality should be at the forefront of the study of (and even making or abolishing) projects like AI in society (Joyce et al. 2021). Many interdisciplinary subfields are bringing intersectionality to the fore in data studies, data science, and critical Internet studies. We are watching the work of emerging scholars writing about the possibilities of intersectional quantitative social science to understand how youth, social movements, and transformative justice are shaped by AI (Epps 2024) and how AI is affecting the ways we understand creativity and marginalized communities (Topaz et al. 2022). Activists and community members are responding to and shaping the future of technology across their neighborhoods and cities, from refusals of water depletion, overpricing, land-grabbing, and environmentally catastrophic data centers in Memphis and Austin to working to ban facial recognition in Detroit (Noble 2024). Intersectionality is a lens by which scholars are dissecting propaganda and damage stemming from the manosphere (Sharp 2024, Bell 2025) and writing policies like the White House Office of Science and Technology Policy's (2022) Blueprint for an AI Bill of Rights, led by Alondra Nelson.

We are mindful of the complexity of intersectional scholarship and the many traditions in which its practitioners are trained and steeped. The richness of the result and the recognition of this spectrum are, in many ways, perhaps only possible when scholars engage in intersectional analysis of the many kinds we have reviewed. Among the many contributions of these scholars are concerns that technology industries have no ability to adequately map the world and all of its inhabitants and conditions. It is the most glaring failure and threat of their projects, because the assumptions about people and societies are reduced to data points that fail to capture what is necessary to improve life in socially, politically, and environmentally just ways. Indeed, their projects are often quite the opposite—made to extract profit from people, communities, and the environment at all costs, in uneven ways that extend across race, gender, class, disability, geographies, and society. Intersectional theory and methods helped us come to this understanding and will push us to more interventions and possibilities.

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