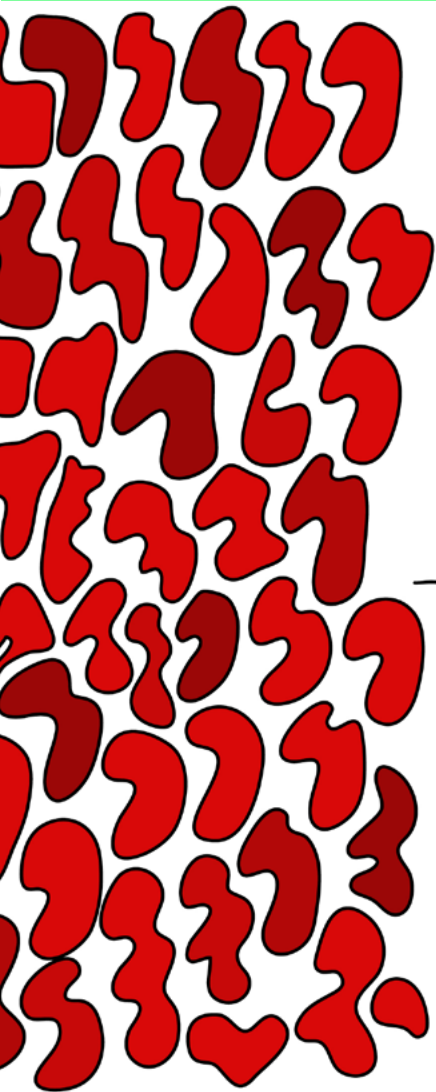# ADVANCING RACIAL LITERACY IN TECH

WHY ETHICS, DIVERSITY IN HIRING & IMPLICIT BIAS TRAININGS AREN'T ENOUGH

'RACIAL LITERACY' MEANS

"BREAKING FREE OF OLD PATTERNS."

Jessie Daniels
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RACIAL LITERACY: BREAKING FREE OF OLD PATTERNS

Racial literacy is a new method for addressing the racially disparate impacts of technology. It is a skill that can be developed, a capacity that can be expanded. To advance racial literacy in tech requires three foundations:

- An **intellectual understanding** of how structural racism operates in algorithms, social media platforms, and technologies not yet developed;
- An **emotional intelligence** concerning how to resolve racially stressful situations within organizations; and
- A **commitment to take action** to reduce harms to communities of color.

The real goal of building capacity for racial literacy in tech is to imagine a different world, one where we can break free from old patterns. This will take real leadership to take this criticism seriously and a willingness to assess the role that tech products, company culture, and supply chain practices may have in perpetuating structural racism. The path forward is exciting. Next steps will include:

- Creating a series of online videos about racial literacy;
- Developing an assessment tool;
- Designing a racial literacy curriculum for computer science classrooms;
- Conducting research on racial literacy in tech;
- Piloting experiential learning workshops;
- Hosting a convening in late 2019;
- Your imagination!

TO HELP MAKE THE PATH FORWARD, GO TO: WWW.RACIALLITERACY.TECH

ADVANCING RACIAL LITERACY IN TECH

INTRODUCTION

Technological innovation promises to improve our lives, but there is always a chasm between our aspirations and reality. All too often, this technological chasm follows the traditional lines of race: facial recognition algorithms are trained to read white faces;[1] airport scanners can't understand black hair styles;[2] soft credit scores are correlated with racially segregated neighborhoods;[3] and predictive policing data is plagued by racial bias.[4] Each innovation, it seems, is vulnerable to learning the worst of human nature in record time, like Tay, the AI chatbot, which learned to perform racist screeds within 24 hours of launch.[5] Without a deliberate effort to address race in technology, it's inevitable that new tech will recreate old divisions. But it doesn't have to be that way.

"Without a deliberate effort to address race in technology, it's inevitable that new tech will recreate old divisions. But it doesn't have to be that way."

Researchers are realizing that many seemingly neutral technologies are deeply affected by race, as Harvard professor Latanya Sweeney discovered when examining online advertising. It was Sweeney's colleague who first discovered that typing her name into a search engine triggered an alarming ad: "Latanya Sweeney. Arrested?" Sweeney was baffled—she had never been arrested—so she began a systematic study of the algorithms behind the ads.[6]

Sweeney found what a lot of us probably take for granted: names themselves are racialized. In other words, names like

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1   Steve Lohr, "Facial Recognition Is Accurate, If You're a White Guy," *The New York Times*, June 8, 2018, sec. Technology, https://www.nytimes.com/2018/02/09/technology/facial-recognition-race-artificial-intelligence.html.

2   Brenda Medina and Thomas Frank, "TSA Agents Say They're Not Discriminating Against Black Women, But Their Body Scanners Might Be," *ProPublica*, April 17, 2019, https://www.propublica.org/article/tsa-not-discriminating-against-black-women-but-their-body-scanners-might-be.

3   Sarah Ludwig, "Credit Scores in America Perpetuate Racial Injustice. Here's How," *The Guardian*, October 13, 2015, sec. Opinion, https://www.theguardian.com/commentisfree/2015/oct/13/your-credit-score-is-racist-heres-why.

4   Peter Hanink, "Don't Trust the Police: Stop Question Frisk, Compstat, and the High Cost of Statistical Over-Reliance in the NYPD," *Journal of the Institute of Justice and International Studies*, 13 (2013): 99.

5   James Vincent, "Twitter Taught Microsoft's Friendly AI Chatbot to Be a Racist Asshole in Less than a Day," *The Verge*, March 24, 2016, https://www.theverge.com/2016/3/24/11297050/tay-microsoft-chatbot-racist.

6   Latanya Sweeney, "Discrimination in Online Ad Delivery," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, January 28, 2013), http://papers.ssrn.com/abstract=2208240.

Geoffrey, Jill, and Emma are likely to be given to white babies, while names like DeShawn, Darnell, and Jermaine are more likely given to black babies. But what Sweeney further found was that the advertising algorithms responding to searched names were *also* racialized. She analyzed thousands of online ads generated by first-name searches and found that when the name was associated with being black, the advertisements that appeared suggested an arrest record an overwhelming amount of the time: 81–86% of the time on *Reuters*, and 92–95% on Google. The same was not true of white-associated names. There was, simply, a racial bias in the algorithm.

The algorithmic systems Sweeney examined weren't broken; they were doing what they were designed to do.[7] But they were designed without consideration for how race works in our society. Every technological innovation creates a wake, and in that wake are dire consequences for racialized communities.[8] However, the path to achieving an ethical field of tech innovation isn't always clear. In this document, we offer a new method for addressing these issues in technology: racial literacy.

"Racial literacy offers a way to break free from old patterns. It is a skill that can be developed, a capacity that can be expanded."

RACIAL LITERACY: BREAKING FREE OF OLD PATTERNS

Racial literacy offers a way to break free from old patterns. It is a skill that can be developed, a capacity that can be expanded. To advance racial literacy in tech requires three foundations:

- An **intellectual understanding** of how structural racism operates in algorithms, social media platforms, and technologies not yet developed;
- An **emotional intelligence** concerning how to resolve racially stressful situations within organizations; and
- A **commitment to take action** to reduce harms to communities of color.

Racial literacy has already proven effective in the field of medicine. Physicians must be prepared to treat patients from a diverse set of backgrounds. Researchers who have worked with medical schools to enhance racial literacy have seen real change.[9] By transforming the cultural assumptions about whiteness in their curriculum, medical schools are better equipped to train physicians and nurses to do less harm when treating patients from a wide variety of backgrounds.[10]

Computer science, user experience, machine learning, data analysis—the practitioners of these fields and those

7   Safiya Umoja Noble, *Algorithms of oppression: How search engines reinforce racism* (New York: NYU Press, 2018).

8   Christina Sharpe, *In the Wake: On Blackness and Being* (Durham: Duke University Press Books, 2016).

9   Howard C. Stevenson, *Promoting Racial Literacy in Schools: Differences That Make a Difference* (Teachers College Press, 2014).

10   Pamela Petrease Felder, Howard Stevenson, and Marybeth Gasman, "Understanding Race in Doctoral Student Socialization," *International Journal of Doctoral Studies* 9 (January 1, 2014): 21–42, https://doi.org/10.28945/1947; Carole Schroeder and Robin Diangelo, "Addressing Whiteness in Nursing Education: The Sociopolitical Climate Project at the University of Washington School of Nursing," *ANS. Advances in Nursing Science* 33, no. 3 (September 2010): 244–55, https://doi.org/10.1097/ANS.0b013e3181eb-41cf.

involved in the design, development, and deployment of technology, should consider racial literacy an essential, necessary skill. And there are so many places this skill can be taught, from computer science classrooms to the teams of social media platform companies.

GETTING SPECIFIC: COMPONENTS OF RACIAL LITERACY

Racial literacy offers an innovative way to reduce the harm of racial bias. This approach is consistent with the latest neurological research, which points to the plasticity of brain structures and the possibility of unlearning even deeply held biases.[11] We stated that racial literacy includes three main components—intellectual understanding, emotional intelligence, and a commitment to action—and each of those can be specifically described.

Racial literacy requires an intellectual understanding of these six concepts:

- Racism is a current problem not a historical one;
- Race intersects with class, gender, and sexuality;
- Racial identities are learned from social practices;
- A vocabulary is necessary

to discuss race, racism, and antiracism;
- Racial codes and practices must be accurately interpreted;
- "Whiteness" has a symbolic value in society.[12]

Racial literacy also requires the development of a form of emotional intelligence.[13] Developing emotional intelligence allows those confronted with racial bias to move though five stages:[14]

- Denial – *I don't see a problem here*.
- Absence – *I'd rather stay out of racial discussions*.
- Confessional – *I am beginning to understand racism and feel compelled to share that with everyone around me*.
- Comfortable – *I am able to recognize structural racism*.
- Transformational – *I am committed to work on stopping the harm of racism*.

Finally, racial literacy requires that understanding lead to a commitment to action. This can be a bottom-up approach, from those forging new paths in an organization; or, it can be signaled from the top. From an organizational perspective, once

11   Richard J. Davidson, "Affective Style, Psychopathology, and Resilience: Brain Mechanisms and Plasticity," *American Psychologist* 55, no. 11 (2000): 1196–1214, https://doi.org/10.1037/0003-066X.55.11.1196; Laurie A. Rudman, Richard D. Ashmore, and Melvin L. Gary, "'Unlearning' Automatic Biases: The Malleability of Implicit Prejudice and Stereotypes," *Journal of Personality and Social Psychology* 81, no. 5 (2001): 856–68, https://doi.org/10.1037//0022-3514.81.5.856.

12   Twine, France Winddance. "A white side of black Britain: The concept of racial literacy." *Ethnic and racial studies* 27, no. 6 (2004): 878-907.

13   Paula C. Peter, "Emotional Intelligence," in *Wiley International Encyclopedia of Marketing* (American Cancer Society, 2010), https://doi.org/10.1002/9781444316568.wiem04017.

14   Jal Mehta, "The White Journey to Racial Awareness: A Stage Theory," *Education Week - Learning Deeply*, accessed May 2, 2019, http://blogs.edweek.org/edweek/learning_deeply/2017/07/the_white_journey_to_racial_awareness_a_stage_theory. html?cmp=SOC-SHR-FB.

there is a commitment in place, then proven management strategies for creating change can be deployed.[15] Reducing the harm of racial bias requires a commitment to turn insights into action plans.

BARRIERS TO RACIAL LITERACY IN TECH

The chief barrier to adopting a racial literacy approach is the belief that race doesn't matter to technology. One researcher explains how often those in tech "argue that code and algorithms are simply math, and math can't discriminate," which can lead to an aggressive push back against work on algorithmic discrimination.[16]

"The chief barrier to adopting a racial literacy approach is the belief that race doesn't matter to technology."

Race *does* matter to technology—from the way we teach and who we attract to tech careers, to the way that algorithms work. For example, despite multiple efforts and considerable funding, historically minoritized groups continue not to enter or continue in tech careers. Several researchers have pointed to a lack of culturally responsive teaching in computer science and related STEM fields as part of the problem.[17]

THE CURRENT ETHICAL TURN IN TECH: PIPELINE, D&I, IMPLICIT BIAS

There *are* promising conversations emerging about ethics in the tech sector. But while any turn toward ethics is an important one, it is incomplete without a racial lens. To date, the conversation around ethics and race in tech has been shaped by three main approaches: examining the pipeline for diverse talent, supporting "diversity and inclusion," and testing for implicit bias. But each of these has encountered its own pitfalls.

There is a well-measured "diversity dividend," that is, a real measurable benefit to diverse tech development teams.[18] A *Harvard Business Review* study that found more diverse workplaces performed better financially, but realizing the goal of a diverse workplace continues to elude tech companies.[19] However, while many acknowledge diversity in hiring as a goal, the tech industry as a whole still falls short of achieving it.

Mark S. Luckie calls the underrepresentation of certain workers in tech "alarming."[20] Overall, employees at key technology firms remain predominantly

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15   *Educational Business Articles*, "Kotter's 8 Step Process to Successful Change," March 7, 2016, https://www.educational-business-articles.com/8-step-process/.

16   Quote from Safiya Noble, personal communication.

17   Brittany Aronson, "The Theory and Practice of Culturally Relevant Education: A Synthesis of Research Across Content Areas," 2016.

18   Paul Gompers and Silpa Kovvali, "The Other Diversity Dividend," *Harvard Business Review*, July 1, 2018, https://hbr.org/2018/07/the-other-diversity-dividend.

19   Rocio Lorenzo and Martin Reeves, "How and Where Diversity Drives Financial Performance," *Harvard Business Review*, January 30, 2018, https://hbr.org/2018/01/how-and-where-diversity-drives-financial-performance.

20   Sara Ashley O'Brien, "Former Facebook Employee Says the Company Has 'a Black People Problem,'" *CNN*, accessed May 2, 2019, https://www.cnn.com/2018/11/27/tech/facebook-mark-luckie/index.html.

white, with a significant proportion of employees who identify as "Asian" ethnically, and very few Latinx or black employees. Facebook is typical in this regard, with an employee distribution of 52% white, 38% Asian, 4% Latinx, 2% Black and 3% ethnically "multicultural."[21] Luckie, who recently left Facebook, contends that Facebook is failing black people given that they are over-indexed as users of the platform, yet makeup only a tiny fraction of the company's workforce. Racial literacy means paying more attention to the ways that race plays a role in who is, and is not, in the room at tech companies.

People in tech have told us while putting this report together that talking about "diversity and inclusion" (D&I) is often a way to avoid talking about racial issues directly. Instead, people talk about "background" or "experience" or "under-represented groups," which can obscure how serious a problem systemic racism really is. And, for the tiny percentage of black and Latinx people who do get hired in tech, they face the multiple burdens of having to do the work of racial literacy for their co-workers, supervisors and company culture.

"The notion that our brains are 'hard-wired' for bias leaves us in a kind of cul-de-sac, unable to escape the programming of our minds."

Another predominant way the tech industry has sought to address "diversity and inclusion" is through implicit bias trainings.[22] Implicit bias is the idea that human prejudices are ingrained at a deep, unconscious level. These trainings use a computer-assisted "implicit association test" (IAT) that measures the strength of associations between groups of people (e.g., black people) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy).[23] Such IATs consistently demonstrate that we are all more biased than we're comfortable acknowledging.

After two decades, using implicit bias to diagnose racial bias has not paid off.[24] The notion that our brains are "hard-wired" for bias leaves us in a kind of cul-de-sac, unable to escape the programming of our minds. If we want a truly ethical technology, we need a different approach, one that looks to ways we can build the skills we need in order to address racial bias.

THE PATH FORWARD: BUILDING CAPACITY FOR RACIAL LITERACY IN TECH

Tech companies and their users are globally connected across national and cultural boundaries. Whether in start-ups of a few people or in well-established firms, tech companies are often working with international teams of people creating products that will launch in a wide array

21   Jeff Desjardins, "Visualizing the Diversity of the Tech Industry," *Visual Capitalist*, August 14, 2017, https://www.visualcapitalist.com/visualizing-diversity-tech-industry/.

22   Sarah M. Jackson, Amy L. Hillard, and Tamera R. Schneider, "Using Implicit Bias Training to Improve Attitudes toward Women in STEM," *Social Psychology of Education* 17, no. 3 (September 1, 2014): 419–38, https://doi.org/10.1007/s11218-014-9259-5.

23   "About the IAT," accessed May 2, 2019, https://implicit.harvard.edu/implicit/iatdetails.html.

24   Jesse Singal, "Psychology's Favorite Tool for Measuring Racism Isn't Up to the Job," *The Cut*, January 11, 2017, https://www.thecut.com/2017/01/psychologys-racism-measuring-tool-isnt-up-to-the-job.html.

of social, cultural, and financial contexts. According to one report, about 71% of tech company employees in Silicon Valley are born outside the United States.[25] The international teams work in, and are shaped by, a dominant culture that has race embedded in it, often in very confusing ways. The tech products created in Silicon Valley and distributed globally are not racially neutral but rather carry the imprint of the dominant culture in which they are created, exporting those assumptions and ideas to other cultures. Racial literacy helps make clear that cultural localization efforts should be an active part of any expansion of services, rather than a reactive customer service strategy.

The real goal of building capacity for racial literacy in tech is to imagine a different world, one where we can break free from old patterns. This will take real leadership to take this criticism seriously and a willingness to assess the role that tech products, company culture and supply chain practices may have in perpetuating structural racism. And, for some companies this is going to require a shift toward a values-centered approach. As a scholar we spoke with said, "It would mean companies have to be clear about their values instead of trying to be all things to all people by avoiding an articulation of their values."[26]

The path forward is exciting. There is much work to be done to build capacity for racial literacy in the tech field. Next steps will include:

- Creating a series of online videos about racial literacy;
- Developing an assessment tool;
- Designing a racial literacy curriculum for computer science classrooms;
- Conducting research on racial literacy in tech;
- Piloting experiential learning workshops;
- Hosting a convening in late 2019;
- Your imagination!

Join us in building this community by going to the website below. Register to find out more about racial literacy, and for opportunities to become involved in the future of this important work.

25   Ethan Baron, "H-1B: Foreign Citizens Make up Nearly Three-Quarters of Silicon Valley Tech Workforce, Report Says," *The Mercury News* (blog), January 18, 2018, https://www.mercurynews.com/2018/01/17/h-1b-foreign-citizens-make-up-nearly-three-quarters-of-silicon-valley-tech-workforce-report-says/.

26   Quote from Safiya Noble, personal communication.

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Jessie Daniels, PhD, is an internationally recognized expert on internet manifestations of racism and a fellow at Data & Society (2018 – 2019). She is the author or editor of five books, among them *White Lies* (Routledge, 1997) and *Cyber Racism* (Rowman & Littlefield, 2009), which offer a look at white supremacy before and after the internet. She is currently at work on a new book, *Tweet Storm: The Rise of the Far Right, the Mainstreaming of White Supremacy, and How Tech and Media Helped*. In careers outside and adjacent to academia, Daniels has worked in the tech industry and at Rikers Island. She is a Professor at Hunter College (Sociology) and The Graduate Center, The City University of New York (CUNY), in Sociology, Critical Social Psychology, and Africana Studies.

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DATA & SOCIETY

This project was conceived and launched under Data & Society's Fellowship Program. Data & Society is an independent nonprofit research institute that advances public understanding of the social implications of data-centric technologies and automation. The institute's Fellowship Program supports crucial ongoing field-building work at the intersection of data-centric technology and society.

Cover Illustration: Gaping Void Culture Design Group