

# Racial Discrimination in Imaging Technologies

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# Presentation Plan

1. Systemic racism and the built environment
2. A brief history of racism in imaging tech
3. Racial discrimination in digital imaging tech
4. (time permitting)

Anti-racist engineering practices.



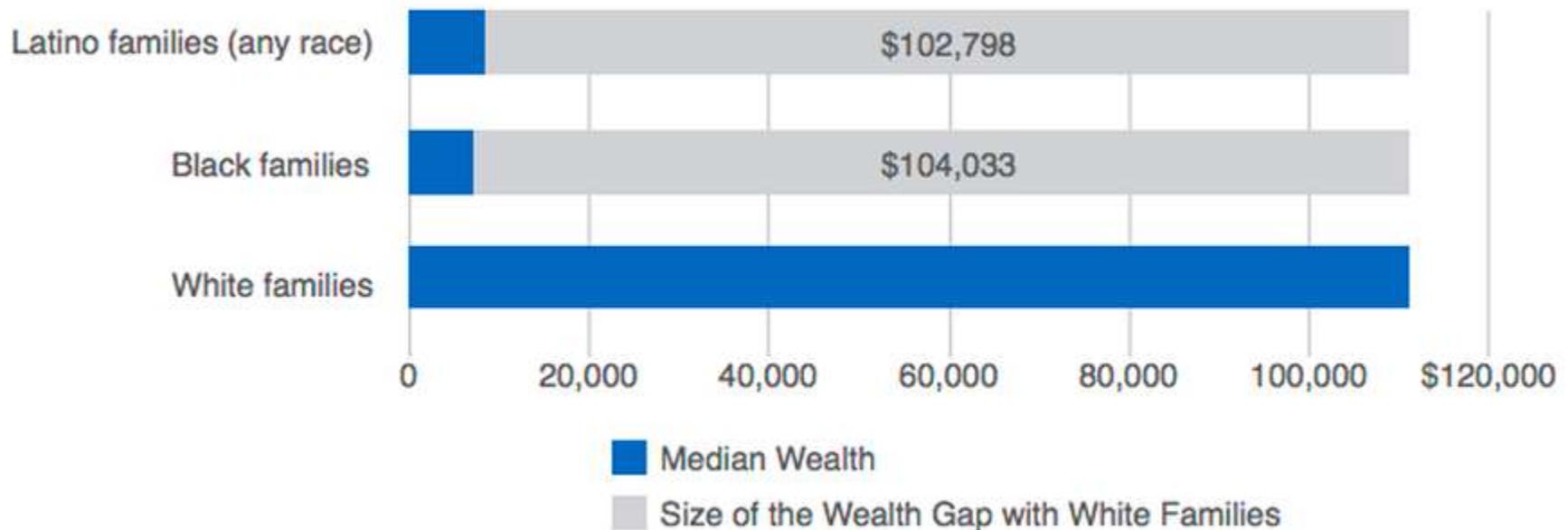
*HP computers are racist* (2009), video, wzamen01, 10 Dec.,  
<https://www.youtube.com/watch?v=t4DT3tQggRM>

**“The technology we use is built on standard algorithms that measure the difference in intensity of contrast between the eyes and the upper cheek and nose. We believe that the camera might have difficulty seeing contrast in conditions where there is insufficient foreground lighting” (Welch 2009).**

Welch, T. (2009). Customer feedback is important to us, *Voodoo Blog, HP Computers*.  
<http://web.archive.org/web/20091224073559/>,  
<http://www.thenextbench.com/t5/Voodoo-Blog/Customer-Feedback-is-Important-to-Us/ba-p/51351>

How can an algorithm be racist?

## Figure 1. Wealth Accumulation and Size of the Racial Wealth Gap, 2011



Source: Survey of Income and Program Participation (SIPP), 2008 Panel Wave 10, 2011

Shin, L. (2015). The racial wealth gap: Why a typical white household has 16 times the wealth of a black one, *Forbes*, 26 Mar.

<https://www.forbes.com/sites/laurashin/2015/03/26/the-racial-wealth-gap-why-a-typical-white-household-has-16-times-the-wealth-of-a-black-one/>



Simone Becchetti via Getty Images



**Ryan Saavedra**  @RealSaavedra · Jan 22, 2019

Socialist Rep. Alexandria Ocasio-Cortez (D-NY) claims that algorithms, which are driven by math, are racist



 6.4K

 6.2K

 9.1K



TECHNOLOGY NEWS OCTOBER 9, 2018 / 11:12 PM / 2 YEARS AGO

# Amazon scraps secret AI recruiting tool that showed bias against women

Jeffrey Dastin

8 MIN READ



SAN FRANCISCO (Reuters) - Amazon.com Inc's ([AMZN.O](#)) machine-learning specialists uncovered a big problem: their new recruiting engine did not like women.



**Yayifications** @ExcaliburLost · 12h

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23



28



**TayTweets** ✓

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@ExcaliburLost it was made up 🙌

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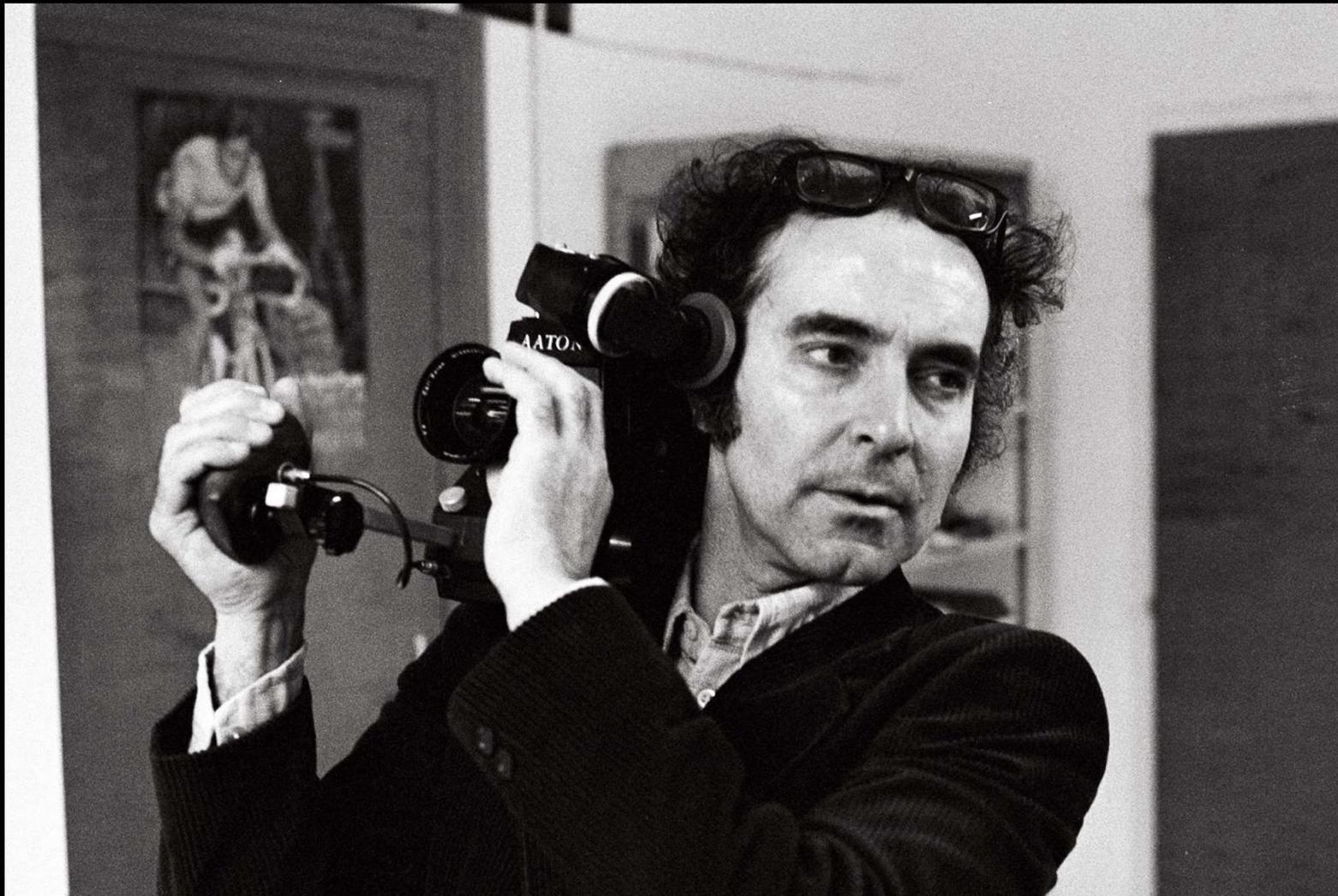


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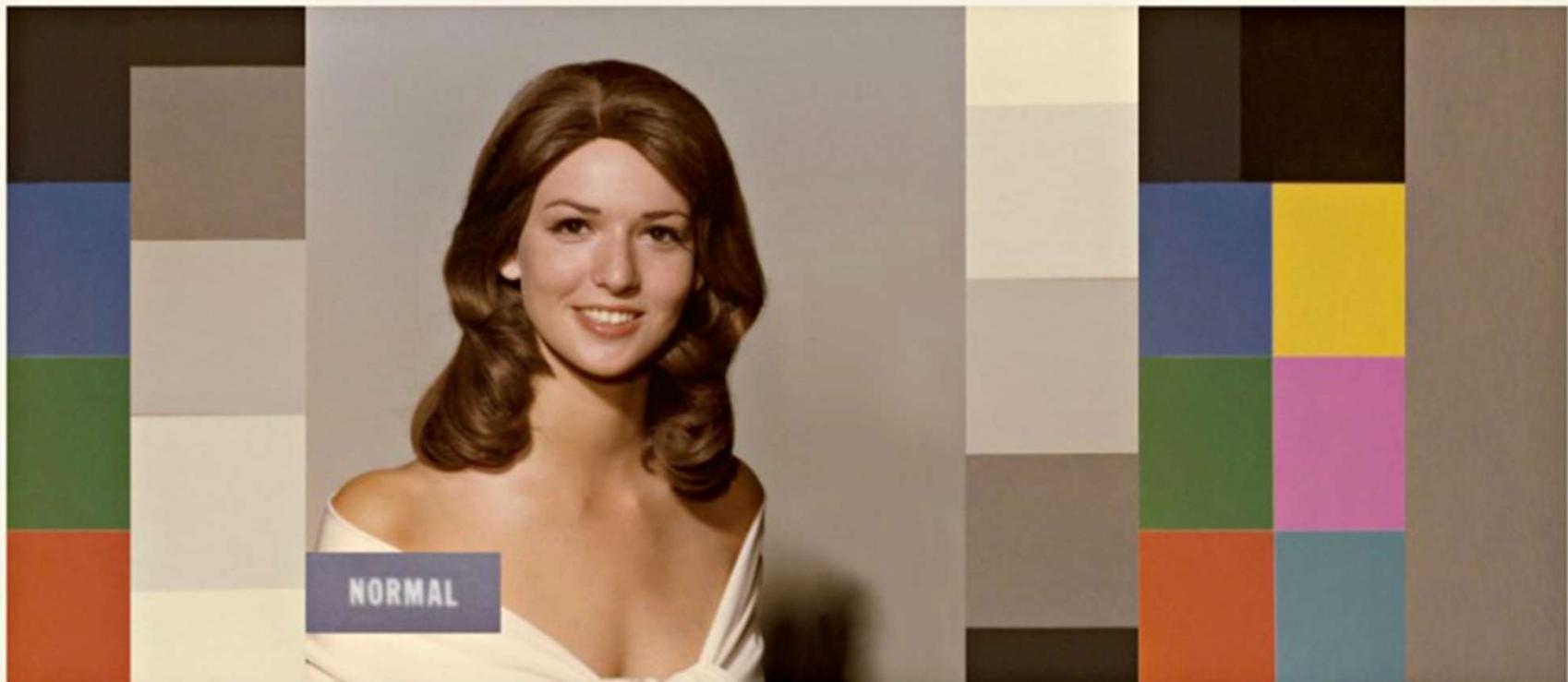








Smith, D. (2013). 'Racism' of Early Colour Photography Explored in Art Exhibition. *The Guardian*, 25 Jan. <http://www.theguardian.com/artanddesign/2013/jan/25/racism-colour-photography-exhibition>



Roth, L. (2009). Looking at Shirley, the Ultimate Norm: Colour Balance, Image Technologies, and Cognitive Equity. *Canadian Journal of Communication*, 34 (1).

<http://cjc-online.ca/index.php/journal/article/viewArticle/2196>



Berta and Roger Mills, 1970; the first interracial marriage in Mississippi since 1890.



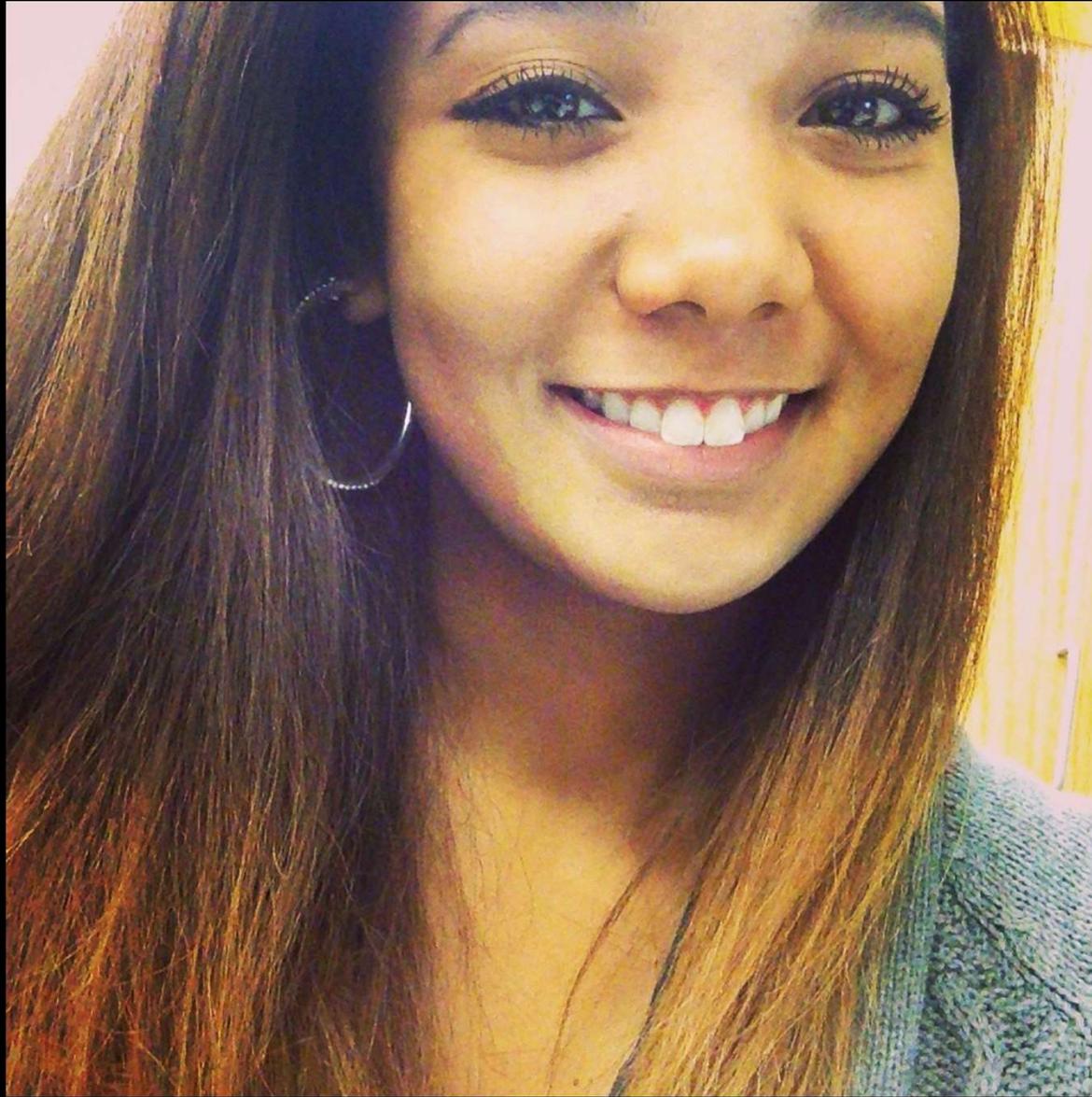
Smith, D. (2013). 'Racism' of Early Colour Photography Explored in Art Exhibition. *The Guardian* 25 Jan. <http://www.theguardian.com/artanddesign/2013/jan/25/racism-colour-photography-exhibition>

**“to photograph the details of a dark horse in low light” (Richard Wien, Executive, Kodak, Rochester, NY, personal communication, August 18, 1995, quoted in Roth 2009: 121–22).**

Roth, L. (2009). Looking at Shirley, the Ultimate Norm: Colour Balance, Image Technologies, and Cognitive Equity. *Canadian Journal of Communication*, 34 (1).

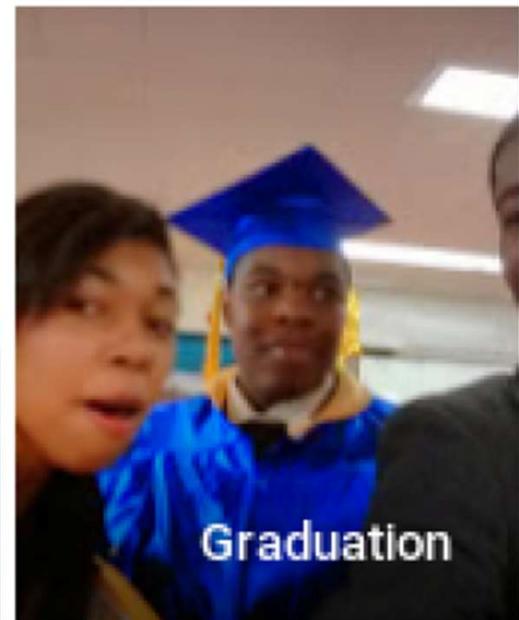
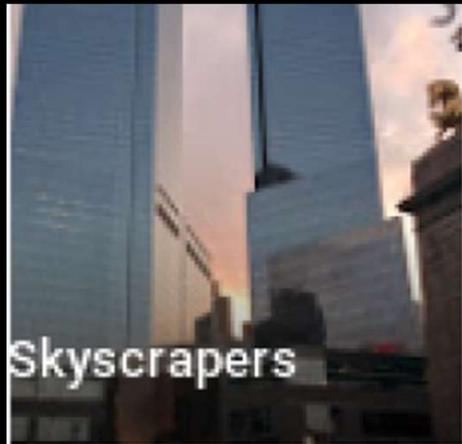
<http://cjc-online.ca/index.php/journal/article/viewArticle/2196>





<http://imgur.com/user/jessicasimonethomas>



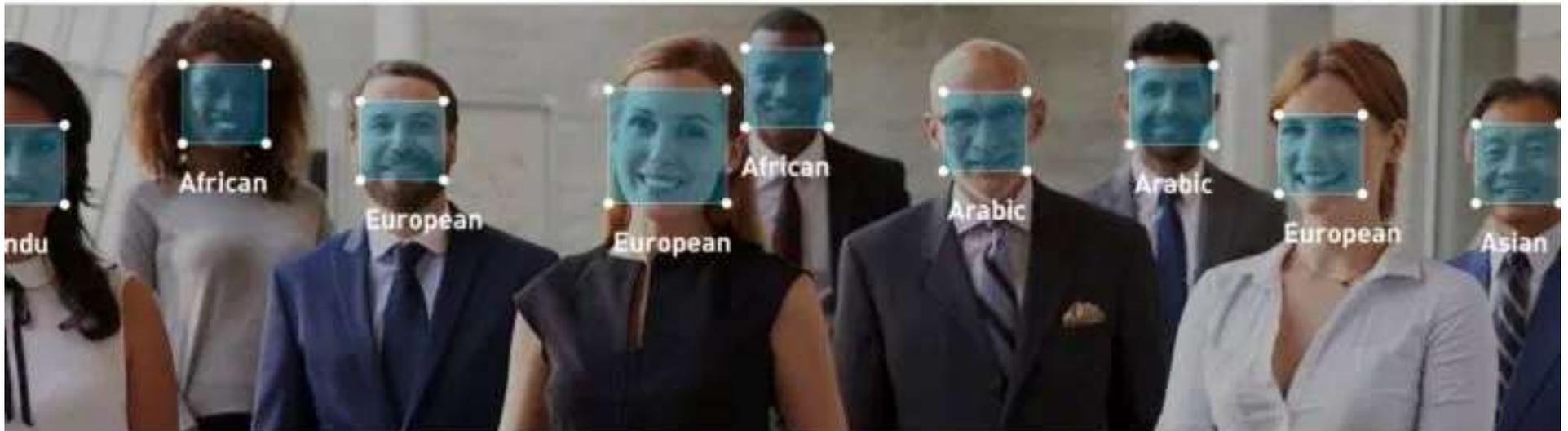


Mullen, J. (2015). Google rushes to fix software that tagged photo with racial slur. *CNN* 2 July. <http://www.cnn.com/2015/07/02/tech/google-image-recognition-gorillas-tag/>

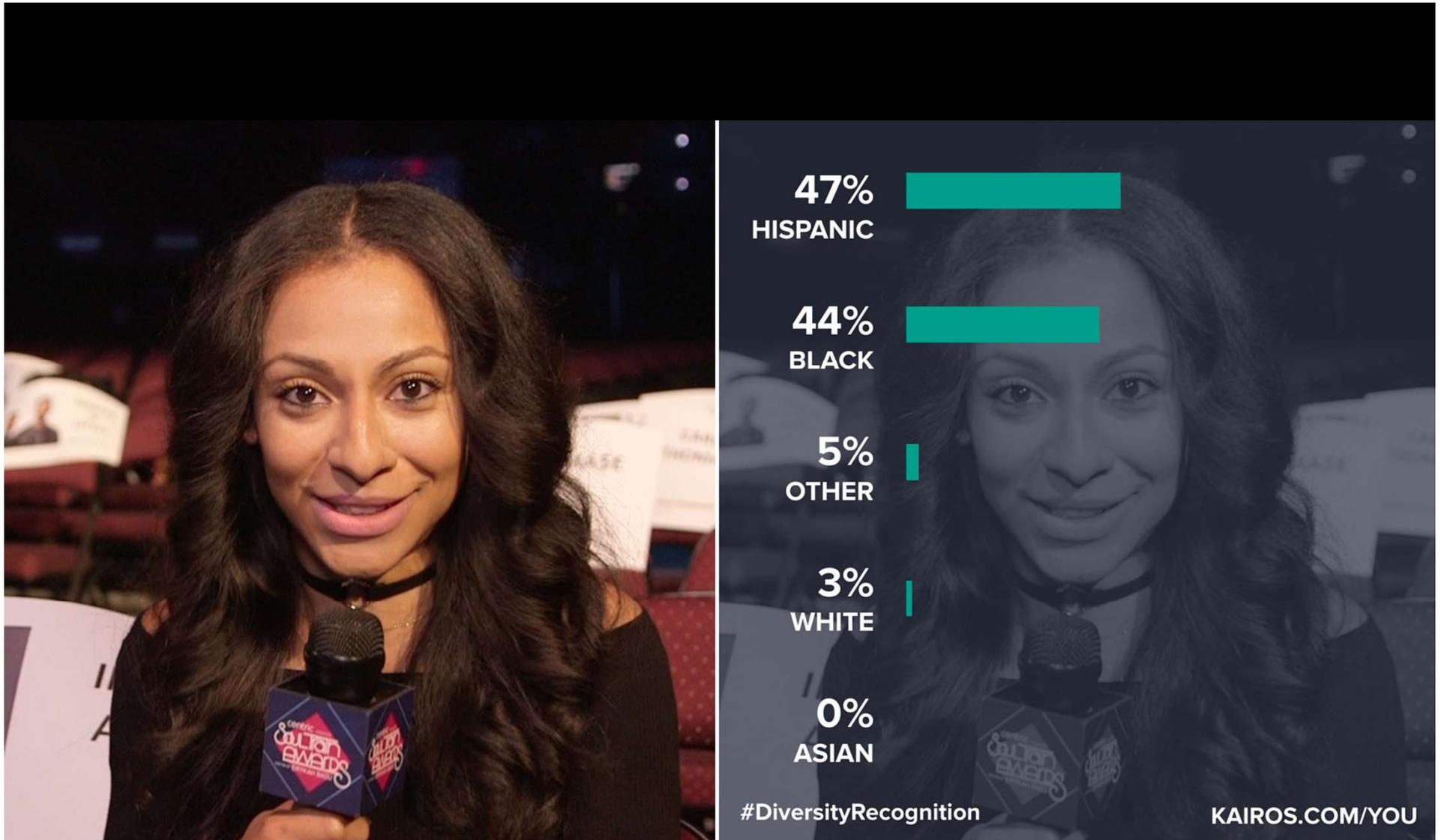


Rose, A. (2010). Are face-detection cameras racist? *TIME*, Jan. 22.  
<http://content.time.com/time/business/article/0,8599,1954643,00.html>

## Recognizes a person's ethnicity



NtechLab dropped this project shortly after it went public in 2019, but other similar projects continue.



Fussell, S. (2018). Face recognition CEO says use of this tech by police is 'irresponsible and dangerous'. *Gizmodo*, 25 June. <https://gizmodo.com/face-recognition-ceo-says-use-of-this-tech-by-police-is-1827103296>

# Amazon Rekognition

**FALSE MATCHES**



28 current members of Congress

Snow, J. (2018). Amazon's face recognition falsely matched 28 members of Congress with mugshots. *ACLU*, 26 July. <https://www.aclu.org/blog/privacy-technology/surveillance-technologies/amazons-face-recognition-falsely-matched-28>



**"And now I also got to worry about racist autonomous vehicles."**

JAVI\_INDY/GETTYIMAGES.COM

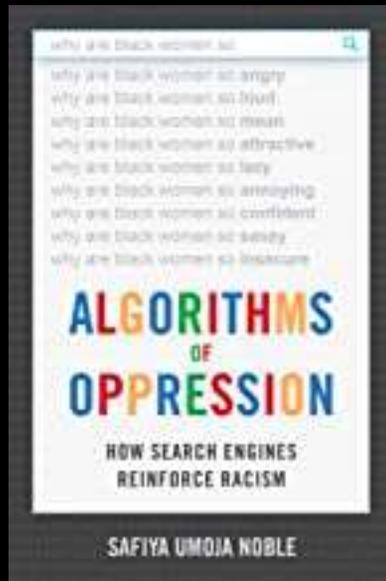
Mudede, C. (2019). Self-driving cars more likely to hit Black pedestrians than white ones. *The Stranger*, 8 Mar. <https://www.thestranger.com/slog/2019/03/08/39542032/self-driving-cars-more-likely-to-hit-black-pedestrians-than-white-ones>

1. Diversify developer teams—but keep in mind that ending racism is not the responsibility of POC, but is first and foremost the responsibility of white folks because they have unearned benefits from white privilege and have an obligation to pay it forward, and they can often take more effective action, because of white privilege.
2. Conduct diverse and longitudinal diversity impact studies, similar to environmental impact studies.
3. Pay attention to biases in datasets and inputs. Being race-blind results in replicating racism.
4. Test with diverse user groups and be sure that they know that you want to recognize and accommodate their diverse experiences.
5. Listen to others, admit it when you mess up, and keep working on doing better. Being anti-racist is a process, and a long process, and we will all mess up sometimes.

Wittkower, D.E. (2016). Principles of anti-discriminatory design. *IEEE*.

[https://www.academia.edu/28450742/Principles\\_of\\_Anti-Discriminatory\\_Design](https://www.academia.edu/28450742/Principles_of_Anti-Discriminatory_Design)

# Further reading



<https://www.amazon.com/Algorithms-Oppression-Search-Engines-Reinforce/dp/1479837245/>

<https://www.amazon.com/Race-After-Technology-Abolitionist-Tools/dp/1509526404/>