



KAPOR CENTER

NAACP



STATE OF TECH DIVERSITY:

The Black Tech Ecosystem



Technological change, innovation, and disruption is occurring across all industries and significantly impacting our economy, our society, and our democracy, but Black communities have yet to benefit from technology's promise and potential. Despite over a decade of focus on increasing diversity in the technology sector, Black students still lack access to computer science courses, the number of Black CS graduates has decreased, and the representation of Black professionals in the technology sector—from engineers and entrepreneurs to investors and C-Suite leaders—has barely budged. There are very real economic consequences for Black communities, including lack of access to high-growth, high-wage jobs; risk of job displacement due to automation; and inability to create wealth through entrepreneurship and investment. And there are significant social challenges as well, ranging from facial recognition software being inaccurate and contributing to disparities in policing and criminal justice, to the use of algorithms to spread disinformation, impacting health outcomes and civic participation. And as a nation, by excluding the contributions, perspectives, and experiences of Black communities in the creation and deployment of technologies, we are limiting innovative ideas that come from diverse experiences, we are leaving talent untapped and unrealized, we are limiting the national tech workforce when the need for talent has never been greater, and most importantly, we are failing to address long standing racial inequality.

At the Kapor Center, we believe that we are at an inflection point and that technology is at the center of the fight for racial justice. The challenges facing Black communities are too urgent to settle for one-off solutions and slow, incremental progress. Along with our partners at the NAACP, we make an urgent call-to-action for significant long-term investment from tech companies, venture capital, philanthropy, and state and local government in the resources, policies, and practices needed to increase Black representation across the entire technology ecosystem.



Allison Scott, Ph.D.
CEO
Kapor Center



Racial equity in tech is a 21st century imperative with far-reaching implications for our nation's future. For our nation to remain innovative and prosperous, we need educational and workforce opportunities that match our racial diversity. Today, this is not the case. While Black people comprise 13 percent of the U.S. population, they represent only 7 percent of the computing workforce. Even more unsettling, of the many computational occupations, most of that 7 percent are "computer support specialists," according to the American Community Survey. To increase the number and percentage of Black people in the computing workforce, we need educational service providers, tech companies, and the government to be transparent with their data, accountable with their actions, and innovative with their solutions. The NAACP believes that diversity in tech is a modern civil rights issue, and we cannot afford to be indifferent to the unsettling statistics presented in this report. But more importantly, the call to action and recommendations in the report provide a compelling case for a comprehensive, cradle-to-career approach to increasing the number and capacity of Black people in tech. As the National Director of Education Innovation and Research for the NAACP, I am calling upon our 2 million members and supporters representing over 2,200 units to use this report to push racial equity in tech within your sphere of influence. Together, with the Kapor Center, we can realize a future when Black children consistently receive quality tech education that prepares them for postsecondary success in computational sciences; and the emerging generations will have a racially diverse tech workforce, with Black innovators that fortify our nation and advance the world at the human-technology frontier.



Ivory Toldson, Ph.D.
Director of Education Innovation and Research Strategy
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STATE OF TECH DIVERSITY: The Black Tech Ecosystem

Executive Summary

The *State of Tech Diversity: The Black Tech Ecosystem* report analyzes and synthesizes the latest data from the tech ecosystem, demonstrating the continual exclusion of Black talent from one of the major drivers of our nation's economy. Progress towards racial equity has not only stalled but, in many respects, has been regressing throughout each phase of the tech pipeline.

Key Findings

K-12 CS Education: Despite efforts to broaden participation in computer science (CS), Black students continue to face barriers in computing education leading to inequitable participation.

- Almost **one-quarter** of Black students still do not have access to computers or reliable high-speed internet at home.
- Just **75%** of Black students attend schools that offer foundational CS courses to introduce students to computing concepts.
- Black students only represent **6%** of students in advanced placement CS courses despite representing **15%** of the overall student population.
- K-12 CS teachers are overwhelmingly white (**75%**), not reflecting the current composition of the US K-12 student body.
- **Less than 2/3** of CS teachers are confident teaching material highlighting race, ethnicity, and culture.



Postsecondary Tech Pathways: The number of CS majors has increased 300% since 2006; however, the percentage of Black graduates in CS dropped between 2016-2020. Alternative pathways have not fared much better.

- The proportion of Black students receiving Bachelor's degrees in CS has decreased between 2016 and 2020, going from **9% to 8%**.
- HBCUs graduate **10%** of all CS degrees but are chronically underfunded with endowments funds accounting for only **1%** of total endowments across all US degree granting postsecondary institutions.
- **35%** of all Black students attaining an undergraduate CS degree do so through 2-year institutions, but those institutions receive **\$8,800 less in per-student revenue** than 4-year institutions.
- Bootcamps as an alternative pathway are not faring better with Black talent only representing **6%** of participants.
- While a greater proportion of Black talent (**17%**) is represented among apprenticeships, Black participants are less likely to complete them and face lower wages than Asian and white apprentices.



Tech Workforce: Between 2014 and 2021, the industry produced only a [1% increase in Black representation](#) within technical roles in large tech companies.

- Despite comprising **13%** of the labor force, Black talent now represents just **4.4%** of board roles, **3.7%** of those in technical roles, and just **4.0%** of those in executive leadership.
- The wage gap persists with Black workers being paid **4%** less than peers and often hired in lower-level roles than their qualifications justify.
- **Almost half** of Black technologists reported experiencing racial inequality in hiring, promotion, leadership opportunities, and salaries and benefits.



Venture Capital: Despite public commitments to increased funding for Black entrepreneurs specifically, tangible results remain to be seen.

- Black founders received just **1.3%** of **\$288B** of capital deployed between February 2020 and February 2021.
- The [average size of the first venture fund](#) for Black investors (**\$30.5M**) is about half that of their peers (**\$57M**).
- Among 11,790 companies receiving venture capital investment, just **222** were Black-founded companies.
- [Black women face greater challenges](#) in the entrepreneurship space with Black women having raised **2.3x** less capital than Black men.

Bold and strategic solutions, comprehensive funding, and steady accountability are needed to close racial equity gaps; increase Black representation, inclusion, and retention across the technology ecosystem; and create a more equitable future.



STATE OF TECH DIVERSITY: The Black Tech Ecosystem



Introduction

The outsized role technology plays in all aspects of our economic, social, and political life is [well-documented](#) with technology impacting the ways we communicate, socialize, travel, learn, and work. The technology sector contributes significantly to the United States economy, employing [12.4M tech workers](#) and growing by nearly 200,000 jobs per year with many tech occupations, including cybersecurity, data scientists, and software developers, projected to grow at [4x to 5x the national](#) rate of overall employment growth. Beyond the size of the workforce, the wealth created by the technology sector is astronomical—the big 5 tech companies topped [\\$1.4T in revenue](#), their stocks account for [23% of the S&P 500](#), and the median tech wage is [89% higher](#) than the national median wage. And the COVID-19 pandemic has [dramatically accelerated digitization](#) and our reliance on technology. Yet, the persistent and pervasive underrepresentation of Black professionals in this sector remains a significant public and private sector challenge.

Despite a decade of attention on the lack of racial diversity in the tech sector and the recent [statements of commitment](#) to racial equity, current data suggests that very little progress has been made in increasing Black representation across any levels in the tech sector. As a result of the tech sector excluding Black people, Black communities are negatively impacted by [automation](#), [income inequality](#), and lack of access to wealth creation through investment and entrepreneurship; and the tech products created and deployed multiply those harms and produce additional harms through algorithmic bias in education, employment, [facial recognition](#), and surveillance tools; and unchecked tools and platforms that aid the prolific manufacture and spread of [mis/disinformation](#), polarization, [white supremacy](#), and the [fracturing of democracy](#). These disparities are not just harmful to Black communities; this is an issue of significant national importance for meeting economic demands for a [robust tech workforce](#), innovation in product and company development, and global competitiveness.

The ***State of Tech Diversity: The Black Tech Ecosystem*** report examines the current state of Black representation and inclusion across the four stages of the [Leaky Tech Pipeline](#): (1) K-12 CS education, (2) postsecondary education, (3) the tech workforce, and (4) tech entrepreneurship/venture capital. This report highlights current data and existing challenges and concludes with a set of specific recommendations to increase racial equity in the technology ecosystem.



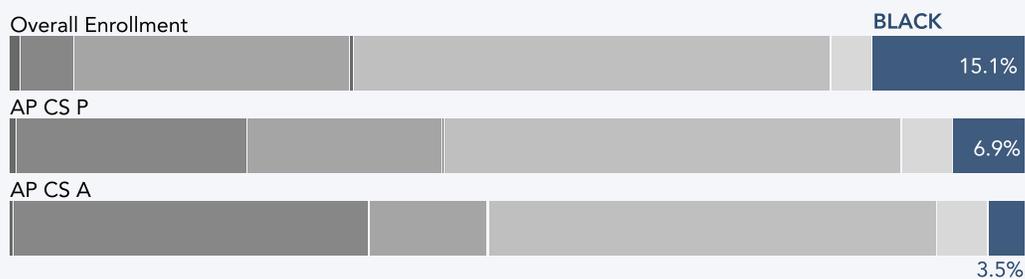
K-12 Computer Science Education

Black students in K-12 education continue to be negatively impacted by inequities in school funding, resources, teacher quality, [course availability](#) and quality, technology, and broadband accessibility, all of which impact their educational opportunities.

Course Access and Equity

In computer science education, despite efforts to [broaden participation](#) across the country, Black students continue to be left behind. Just 75% of Black students attend schools that offer the [foundational computer science](#) (CS) courses that introduce students to computing concepts, a figure much lower than their Asian peers (89%). And while data show that students who participate in Advanced Placement Computer Science (AP CS) courses are 3-4 times more likely to major in computer science in college, Black students are [less likely to have access](#) to and participate in AP CS courses, restricting their preparation for long-term success in computing majors and careers. Black students comprise 15% of the K-12 student population but just 6.9% of students taking AP CS Principles and 3.5% of students taking AP CS A (Figure 1). In 2020, just 2,246 Black students took an AP CS A course and just 715 were Black girls.

Figure 1. Participation Rates in Advanced Placement Computer Science A and Advanced Placement Computer Science Principles, by Race/Ethnicity



* Note: Analyzed from College Board Advanced Placement Computer Science A & Principles exam participation data, 2020

Among the Black students who did have access to CS courses, the transition to virtual or hybrid modes of education brought upon by the COVID-19 pandemic presented additional challenges. Two years into the pandemic, almost [one-quarter of Black students](#) still do not have access to computers or reliable high-speed internet at home, which are integral to computing courses that rely on technology. Additionally, in a [national study](#) of CS teachers, 54% of teachers serving districts with high proportions of Black, Latinx, and Indigenous students identified distance learning (due to the pandemic) as a major challenge to CS instruction, and 21% had to suspend CS instruction.



Classroom Curriculum & Pedagogy

Beyond access to CS courses, inequities are also seen in classroom pedagogy and curriculum. A [2021 study of 3,700 CS teachers](#) indicated that the educator workforce is predominantly white (75%) and relatively novice (51% have under 5 years of CS teaching experience), and less than half (46%) have a credential in Computer and Technical Sciences. Only slightly more than half (57%) of the CS teachers surveyed feel prepared and confident utilizing culturally relevant and responsive teaching practices and engaging a diverse student body. Thus, Black students are less likely to have access to teachers of color and teachers with the ability to translate material in a culturally responsive manner to ensure their sustained engagement.

Yet, these systemic barriers and exclusionary practices that actively marginalize Black students in CS are often misidentified—based on unsubstantiated and racist deficit theories about Black students' lack of interest in the subject matter. Despite [8% of CS teachers](#) perceiving family and cultures acting as a barrier to CS entry for historically excluded students, a [national Gallup study](#) demonstrated that Black students were more likely than white students to express interest in CS, and Black parents were more likely than white parents to see the importance of CS for their child's future. Until administrators, educators, policymakers, and advocates implement and embrace policies and practices to address the systemic factors limiting Black student participation and success in K-12 CS education, progress on inclusion and representation will remain stagnant.

Postsecondary Tech Pathways

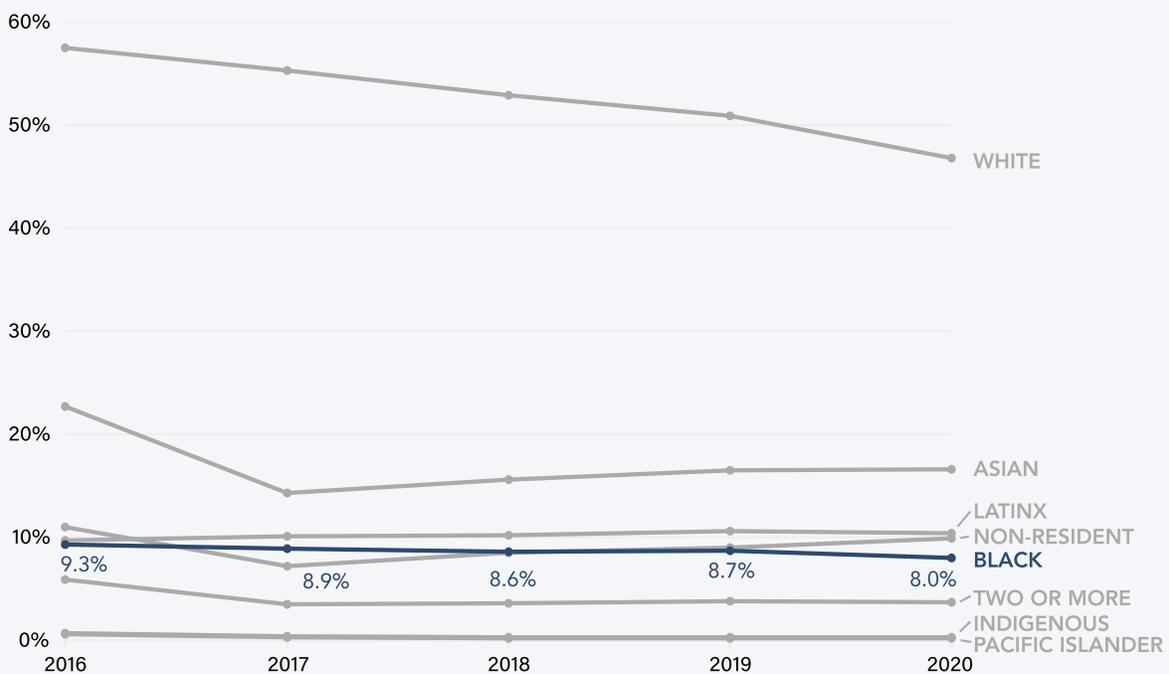
Inequitable education structures, policies, and practices continue to impact Black students in traditional institutions of higher education, as well as alternative educational pathways like tech bootcamps and apprenticeships. These include gatekeeping practices to CS majors, financial burdens (tuition expenses, student loan debt, cost of living, needing to work while attending school), hostile campus and classroom climates, and the systemic underfunding of institutions of higher education serving greater proportions of Black students (i.e., [two-year institutions](#) and [Historically Black Colleges and Universities \(HBCUs\)](#)), in addition to predatory practices within bootcamp programs and alternative education financing, all of which contribute to the negative experiences and outcomes of Black students in computing degree attainment. Addressing these challenges within traditional institutions of higher education (four-year, HBCUs, and two-year) and alternative pathways will be essential to the expansion of the Black technology workforce.



The Role of Four-Year Institutions in Black Tech Workforce Preparation

Across all four-year institutions, the number of CS majors has significantly increased ([up 300% since 2006](#)), as has the proportion of bachelor's degrees conferred in CS. Between 2015 and 2020, the percentage of CS degrees earned (as a proportion of all degrees) has increased from 3% to 5%. Yet, the proportion of Black students receiving computer science degrees has *decreased* in that same time period, (dropping from 9% to 8% (see Figure 3). Across all STEM disciplines, computer science has the [greatest attrition rate](#), but the proportion of Black students who intend to major in computer science when entering the institution but either switch out of the major or drop out of the institution altogether is greater than any other race or ethnic group. Black students are also subjected to more [racial hostility on campus and within STEM majors](#) and departments from professors, peers, and administrators than any other group. These data are concerning as the workforce demands for traditional computing degrees will continue to increase.

Figure 3. Bachelor's Degrees in Computer Science Conferred, 2016 – 2020



* Note: Analyzed from National Center for Education Statistics, 2016-2020

** Note: Percentages calculated above are of CS degrees conferred, what proportion is represented by each category identified above.



The Role of Historically Black Colleges & Universities in Black Tech Workforce Preparation

HBCUs have played an integral role in educating the next generation of highly skilled Black STEM talent. Seventy-three percent of the [degrees conferred](#) at HBCUs are to Black students. HBCUs are responsible for graduating 25% of Black STEM majors and 10% of the 8,120 Black computer science majors in 2020. (North Carolina A&T University produces the largest number of Black CS majors among HBCUs (Table 1). Despite the critical role of these institutions, HBCUs have faced challenges, including state-level funding that was [legally due](#) being blocked, [federal funding gaps for HBCUs having widened](#), and resources being diverted to predominantly white institutions (PWIs).¹ Due to the compounding effects of continued discriminatory funding and other longstanding policies shifting wealth from Black communities to other predominantly white communities, endowments are also much smaller with HBCU endowments only accounting for 1% of total endowments across all U.S. degree granting postsecondary institutions (Table 1).

Table 1. Historically Black Colleges & Universities Producing the Greatest Number of CS Degrees Conferred to Black Students, 2020

College Names	Number of CS Degrees Conferred to Black Students *	Endowment **
1. North Carolina A&T State University	71	\$73.8M
2. Bowie State University	50	\$11.2M
3. Florida A&M University	49	\$89.9M
4. Morgan State University	48	\$42.1M
5. Alabama State University	30	\$111.3M
6. Southern University and A&M College	26	\$10.0M
7. Alcorn State University	22	\$20.2M
8. Norfolk State University	22	\$30.2M
9. University of Maryland Eastern Shore	18	\$29.3M
10. Tennessee State University	17	\$63.0M
11. University of the District of Columbia	17	\$53.7M

* Note: Analyzed from the Integrated Postsecondary Education Data System, 2020

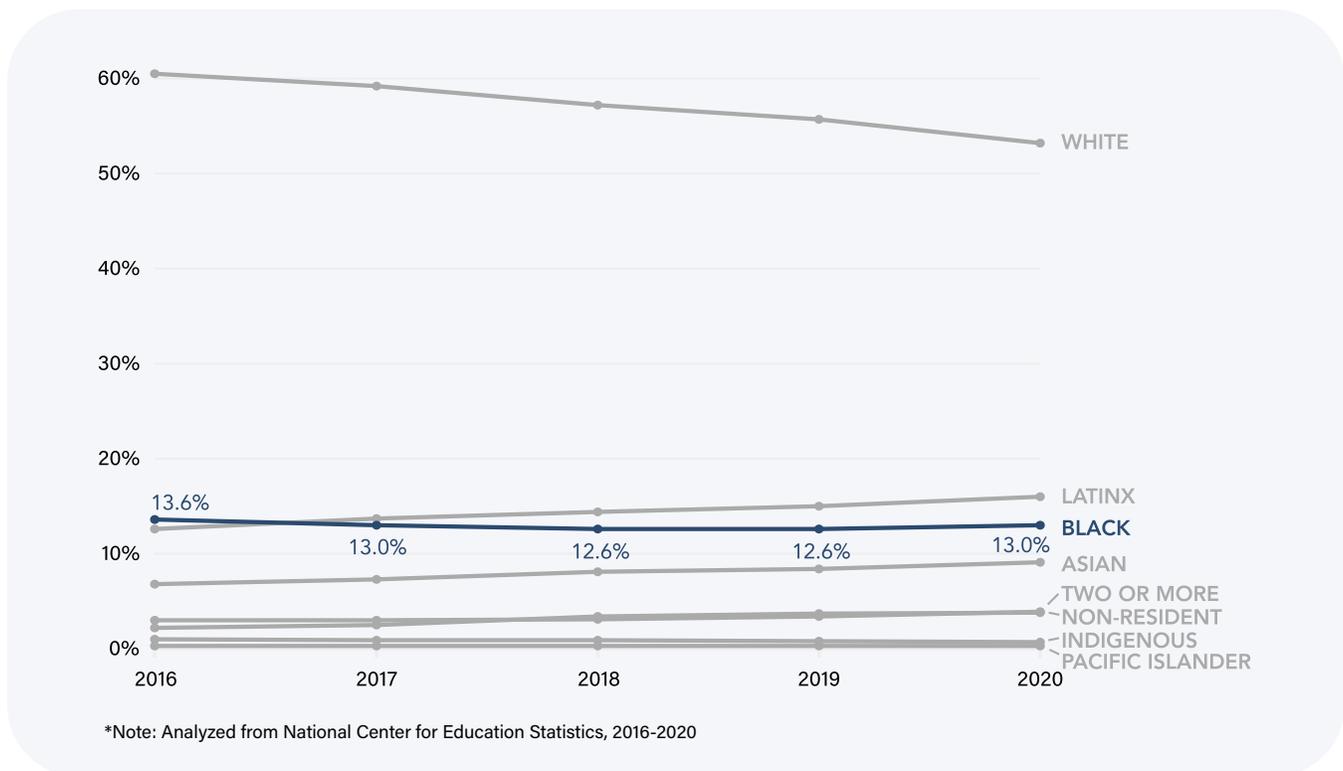
** Note: Donastorg, M. (2020). [DATABASE: All 2020 HBCU Endowments Combined Just A Fraction of One Ivy League](#), The Plug.

¹ In April 2021, a bipartisan legislative committee showed that the [state of Tennessee had not matched funds from land grants dollar-for-dollar to Tennessee State University \(an HBCU\) since the 1950s](#), as it had done for the University of Tennessee (a PWI). In the same month, [Maryland settled a 15-year lawsuit](#) with the federal government when it was shown that the state had chronically underfunded the four HBCUs in the state, while concurrently developing programs in PWIs to draw students away from the state's HBCUs.

The Role of Two-Year Institutions in Black Tech Workforce Preparation

Two-year institutions, an overlooked source of Black tech talent, serve over one-third of Black students attaining undergraduate degrees and also serve as an entry into technical careers for a large proportion of Black students. Notably, 35% of all Black students attaining an undergraduate CS degree do so through two-year institutions, and Black students represent 13% of students completing associate’s degrees in computer science (Figure 2). However, two-year institutions continue to be underfunded and under-resourced, receiving [\\$8,800 less in per-student revenue](#) (from tuition, grants, scholarship, and state and federal appropriations) than four-year institutions—despite playing a key role in serving Black students and students who have the greatest financial needs.

Figure 2. Associate's Degrees in Computer Science Conferred, 2016 - 2020



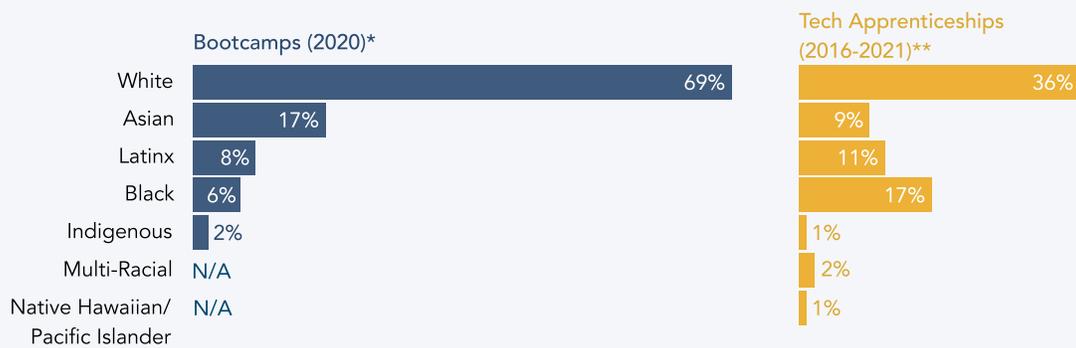
The Role of Alternative Pathways in Black Tech Workforce Preparation

Traditional computing education pathways are ripe with disparities and not currently keeping pace with the demand for future tech talent; and thus, alternative pathways, such as bootcamps and apprenticeships, have emerged as a relatively more affordable, expedited option for gaining skills and credentials needed to enter high-wage tech jobs. However, the traditional problems of [anti-blackness](#), exclusion, and [inequitable outcomes](#) for Black talent have been replicated in these alternative pathways.

[Black talent only represents 6% of coding bootcampers](#). This is partly due to cost-prohibitive bootcamp tuition rates, ranging from [\\$7,800 to \\$21,000 annually](#), and a lack of scholarships and non-predatory income sharing agreements available at scale. Further, Black talent who enter tech companies through bootcamps are less [likely to be offered equitable compensation](#) (with salaries 4% lower on average in comparison to those with traditional degrees).

Tech apprenticeships, which blend paid classroom and job-based learning geared towards job-conversion, have fared better in representation with 17% of tech apprentices identifying as Black over the course of six years (Figure 4). Troublingly though, Black apprentices do not complete programs at a similar rate with [less than one-quarter completing their apprenticeships](#) (compared to 33% of White apprentices). This may be due to racial discrimination and hostility during apprenticeship; for example, Black women are [paid significantly less](#) than their White and Asian counterparts (\$24.47/hour, compared with \$26.01/hour and \$31.33/hour, respectively). Further, companies often set up apprenticeship programs in [lower-pay tech career pathways at greater risk of automation displacement for Black individuals](#) versus in higher-wage, durable tech career paths.

Figure 4. Racial and Ethnic Representation in Alternative Pathways



* Note: Eggleston, L. (2021). [2020 Coding Bootcamp Alumni Outcomes & Demographics Report](#).

** Note: Analyzed the average percentage between 2016-2021 from the Department of Labor's Registered Apprenticeship Sponsor Information Database (RAPIDS). Data do not equal 100% because the Ethnicity question of Hispanic or Latino is asked separately to the Race question and 32% of participants chose the response "Do not wish to answer." Categories identified as "Tech" included occupation titles containing: Applications, Cloud Computing, Cybersecurity, Data Science, Database Administration, Information Technology, Networking, Programming, and Software.

Restricting the number of Black individuals earning both traditional and alternative degrees and certification in computing fields will further restrict pathways into high-wage jobs, confine a disproportionate number of Black talent in industries with a [high probability of automation](#), and, effectively, earmark high-growth, high-wage jobs (e.g., software developer) for non-black talent.



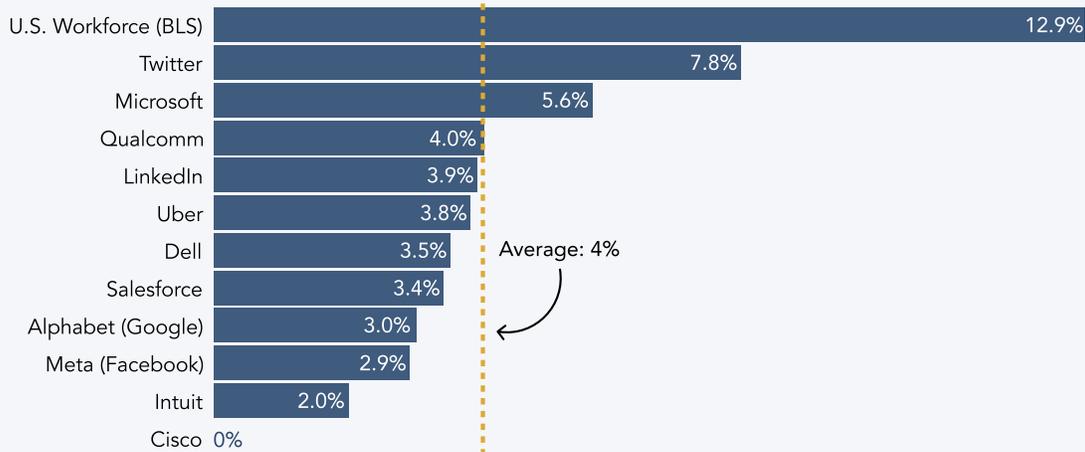
Tech Workforce

The [Leaky Tech Pipeline](#) report, released in 2018, presented data on underrepresentation of Black talent, articulated the barriers to racial and gender diversity in the tech workforce, and provided a roadmap for comprehensive interventions and solutions. Black workers continue to be underrepresented across all levels of the tech workforce due to deeply entrenched discriminatory practices in recruitment and hiring that amount to racial quotas preferencing white men (e.g., recruiting and hiring from [top 10 institutions](#), bias against female and ethnic-sounding names on resumes, biased assessments of technical competence) and experiences of harassment, discrimination, [anti-blackness](#), and pay inequity in the workplace.



Since the report's release in 2018, there have been no *meaningful or significant* results in increased Black representation in the tech workforce. Despite comprising 13% of the labor force, Black talent represents just [4.4% of tech company board members](#), 4.0% of executive leadership roles, and 3.7% of technical roles across the largest US-based tech companies—reflecting a ratio of underrepresentation of 3-4x (Figure 5 and 6).² The current percentage of Black talent in technical roles represents a mere 0.6% increase since 2018 - *less than a percentage point* after years of publicly touted investment in diversity and inclusion. While companies like Twitter and Uber have seen slight increases in their Black technical workforce since 2018, Cisco, Qualcomm, and LinkedIn have seen negligible growth (Figure 6). It is critical to note that Black talent earn computing degrees at a rate more than 2x their representation in technical roles in large tech companies, further indicating practices of bias, discrimination, and inclusion in the hiring and retention processes within tech companies.

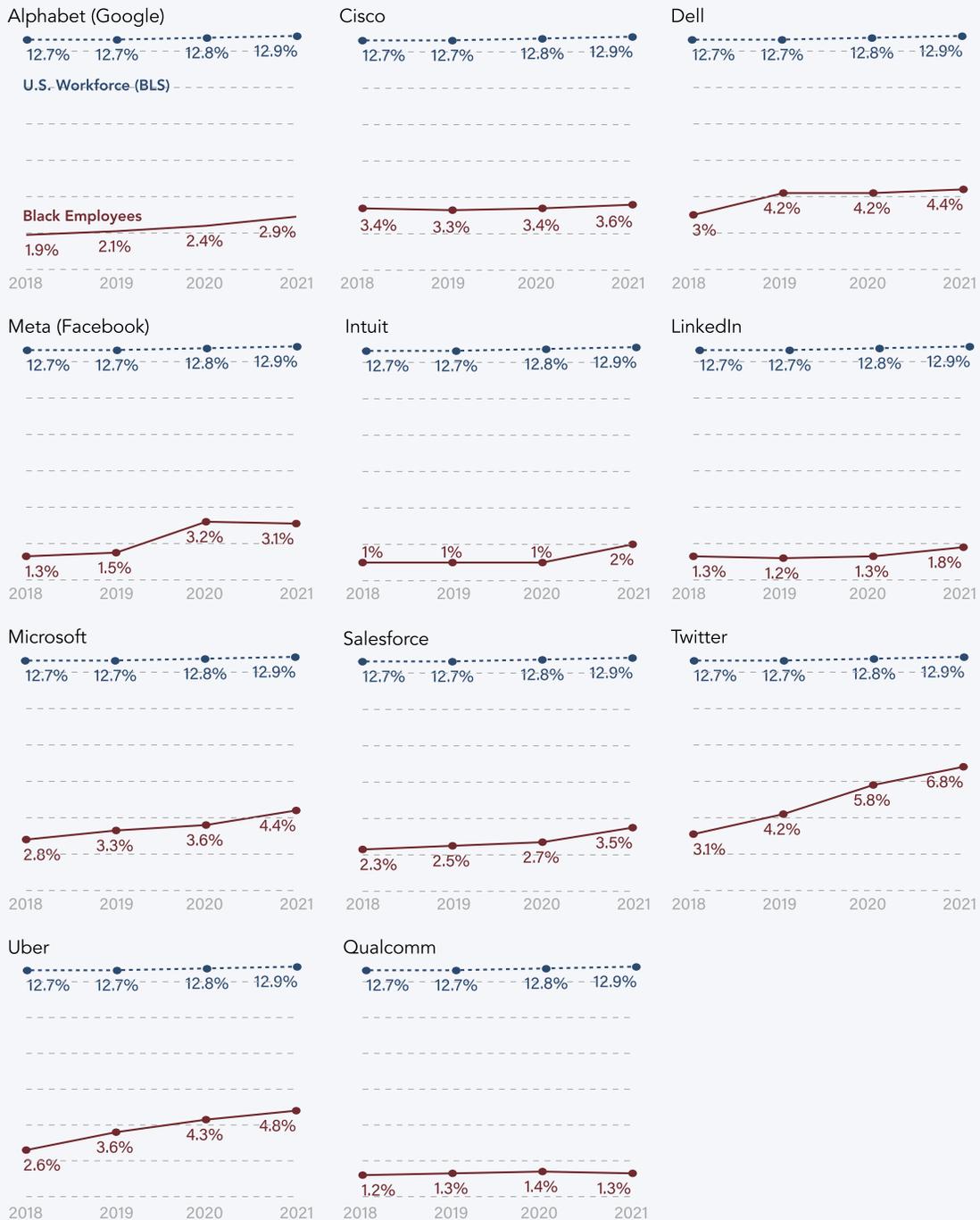
Figure 5. Representation of Black Talent in Executive Leadership Roles in the Largest US-Based Tech Companies by Market Cap, 2021



* Note: Kapor Center (2021) Analysis of 2020/2021 Company Diversity Reports. Each of these charts is highlighting the specific company identified in the title and their representation of Black executives in their workforce. The average percentage was calculated across 25 companies (of the top 30 by market cap) reporting race/ethnicity data.

² The average of Black executive leadership percentage was calculated using available data from 25 of the 30 largest US-based tech companies by market cap. The average of Black technical role percentage was calculated using available data from 21 of the 30 largest US-based tech companies by market cap. Data were gathered from the most recently available company diversity reports, which could be from the year 2020 or 2021.

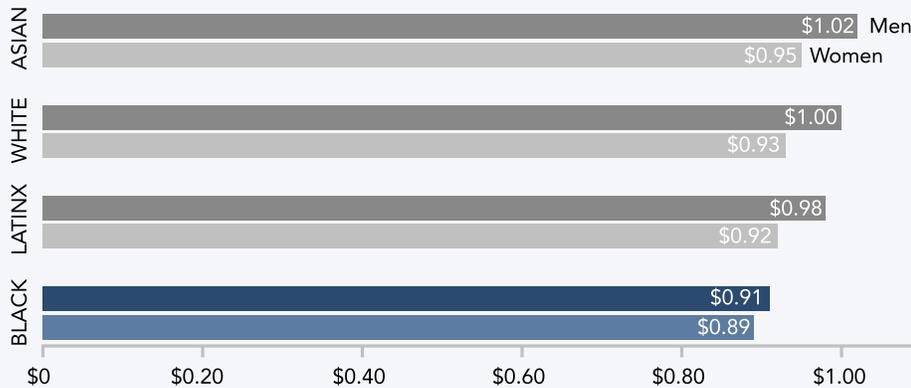
Figure 6. Representation of Black Talent in Technical Roles in the Largest US-Based Tech Companies by Market Cap, 2018 – 2021



* Note: Companies from top 30 tech companies (by market cap) represented in this chart were depicted if the racial/ethnic breakdown of their tech employees between 2018 and 2021 were available.

Beyond representation, significant inequities exist in workplace experiences. The [wage gap persists](#) in tech with Black tech workers being paid 4% less and less likely to receive salary increases when they identify a pay discrepancy (see Figure 7 for wages across race/ethnicity and gender). And this pay gap does not capture the full extent of wage inequity because many Black workers receive [employment offers at a lower level](#) than they interviewed for and than their qualifications demand, so they are [underpaid from the moment of hire](#).

Figure 7. Salary Gaps for Tech Professionals (in 2020), by Race/Ethnicity and Gender



*Notes: Hired.com (2020). The 2020 State of Wage Inequality.

Black talent also [face toxic experiences in the workplace](#) leading to isolation, mental health challenges, feelings of exclusion, and ultimately turnover. In a [2021 survey](#), almost half of Black technologists reported experiencing racial inequity in hiring, promotion, leadership opportunities, and salaries and benefits. The [2017 Tech Leavers Study](#) identified a host of unfair and discriminatory practices experienced by Black tech employees. In the past year alone, reports continue to emerge of the hostile and, at times, malicious treatment that Black employees face in tech and the toxic workplace cultures that persist. Leading artificial intelligence ethics researcher Dr. Timnit Gebru was [fired from Google](#) after publishing research on bias in search algorithms and challenging the company's lack of diversity (and then faced an [onslaught of online harassment](#)); Tesla was forced to pay [\\$137M in a racial discrimination lawsuit](#) filed by a Black employee referencing horrific racial abuse; Ifeoma Ozoma and Aerica Shimizu Banks, two Black female employees at Pinterest, spoke out [alleging racial and gender discrimination](#) while a white female former COO later won a [\\$20M gender discrimination lawsuit](#) against the company. The experiences of these individual Black tech workers are not an anomaly: In December 2021, the California Department of Fair Employment and Housing (DFEH) started an investigation into harassment and discrimination at Google stemming from reports of [seven Black women employed at Google](#) being marginalized on projects and afforded less respect than their peers; Pinterest [shareholders sued executives](#) for enabling a culture of discrimination; and in February 2022, the DFEH filed a [civil rights lawsuit against Tesla](#) for systematically discriminating against Black employees through racial harassment, denying career advancement opportunities, and refusing equal pay for equal work. Without acknowledging and transforming the hostile environment facing Black employees, the tech industry will continue to have challenges in meaningfully moving the needle on hiring, retention, and promotion of Black talent.



Entrepreneurship/Venture Capital

Each year, hundreds of billions of dollars are deployed by venture capital firms into the technology startup companies and entrepreneurs that are driving technology innovation and providing economic opportunity for millions. However, well-documented biases and structural barriers shut out Black entrepreneurs and venture capitalists and hinder the development of a thriving Black tech ecosystem, including: accessing “[friends and family](#)” rounds of funding, gaining access to closed social networks for “[warm intros](#)”, “pattern-matching” that leads to biased assessments of entrepreneurial pitches, and the stark lack of racial and gender diversity among investors.

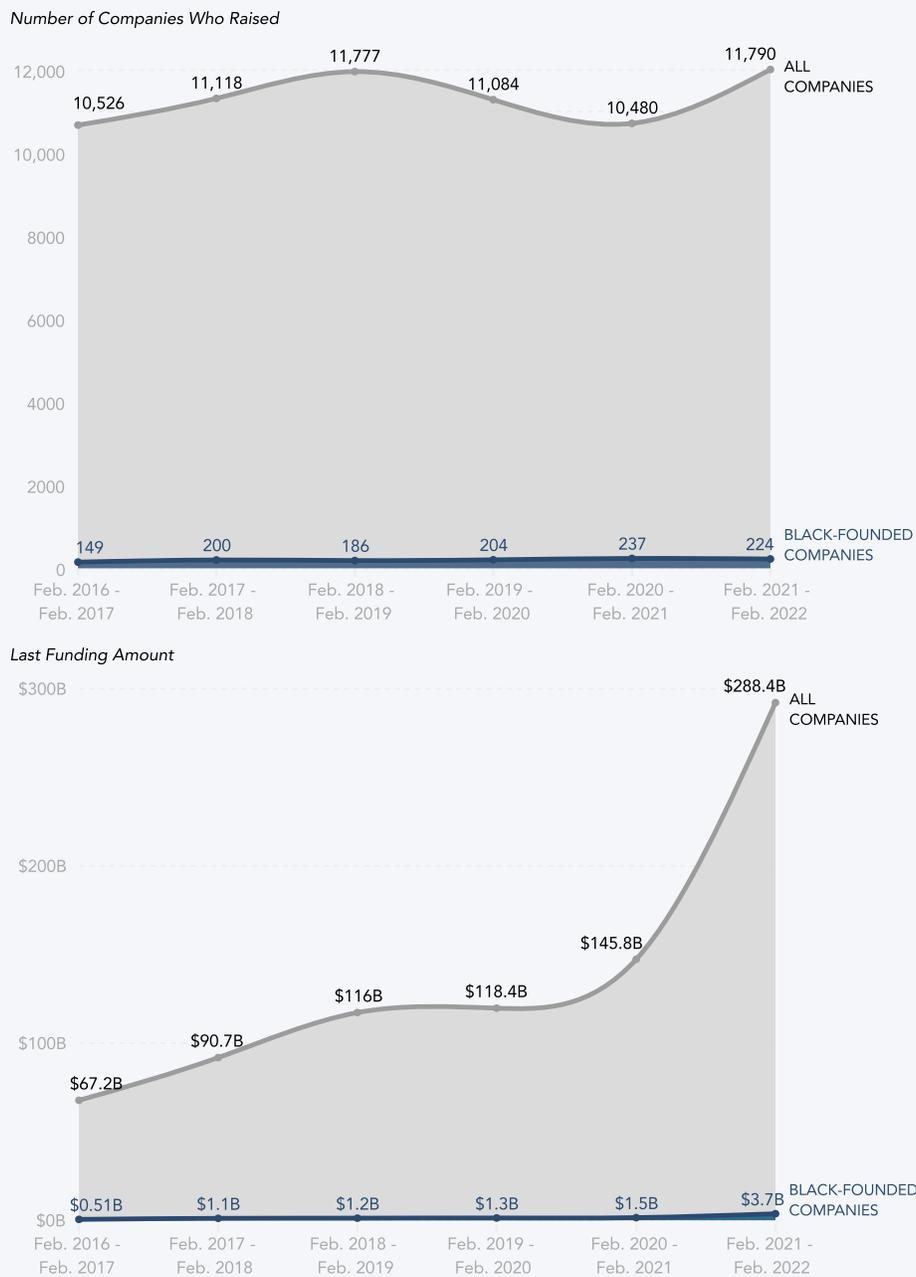


[After the rise of the Black Lives Matter movement in 2020](#), 61% of investment professionals stated that the movement shifted their investment strategy, and 68% stated they were more likely to invest in more diverse companies. But these public displays of commitments to Black lives have not yielded widespread systemic changes in the policies, structures, and practices excluding Black people. While there has been some movement (with 870 US-based [Black and Latinx founders having raised over \\$1M in funding](#) between 2012 and 2021), a [gap remains between the stated commitments](#) of the current number of Black-led funds and total capital deployed to Black founders (Figure 8).

In the last year alone, close to \$290B has been pumped into the national startup ecosystem, a significant increase from \$145.8B in the previous year. Despite the overall increase in capital, just 1% (\$3.7B) has been allocated to Black founders. Among 11,790 companies receiving venture capital investment, just 222 were Black-founded companies (see Figure 8). Further, [Black women face greater challenges](#) in the entrepreneurship space with Black and Latinx women receiving 0.49% of all capital deployed and Black women raising 2.3x less capital than Black men.



Figure 8. Venture capital investments between February 2016 and February 2022, by overall and Black entrepreneurs (U.S. Based Founders)



* Note: Analysis used data from Crunchbase accessed in February 2022. This analysis included data only from founders who were US-based to account for shifts in the US investment landscape. Investments were filtered for solely those that were seed stage, early, or late stage ventures (i.e., analyses excluded mergers & acquisitions, private equity, and IPO) and analyzed the last funding round raised between the time periods noted (vs. total amount raised).

Unsurprisingly, the backgrounds of entrepreneurs who secure venture capital funding mirror the backgrounds of investors—predominantly white and male with some Asian representation. Studies have shown that [diversifying funders is key to diversifying founders](#) in the portfolio. However, Black representation in the investment space remains dismal. The [Information's VC Diversity Index](#) (2022) highlights that of 102 firms, 86 had no Black partners with power or funding to make investments. [Between 2018 and 2020](#), there has been only a one percentage point increase in Black investment professionals (going from 3% to 4%), and there was no change in the representation of Black investment partners in this same time period (holding at 3%). Further, among the small number of Black investors, the [average fund size](#) for Black investors was significantly less than other investors (\$30.5M in comparison to \$57M overall). The lack of Black representation in venture capital investment and tech entrepreneurship minimizes national and global innovation, has significant implications for the creation and deployment of products impacting Black communities, and obstructs opportunities for Black generational wealth-building.



A Call to Action

The lack of Black representation and participation across all levels of the tech ecosystem—and the lack of progress in closing racial equity gaps—presents a significant challenge to Black communities and to the tech ecosystem overall. Given technology’s outsized influence in every aspect of our lives, its potential for economic and social mobility, and the need to mitigate harms and biases perpetuated by technology, we make an urgent call-to-action to tech companies, higher education institutions, nonprofits, educators, government, policymakers, investors, and the philanthropic community to implement the following set of recommendations to increase Black representation across the technology ecosystem:

K-12 CS Education: To increase access, equity, and inclusion for Black students, we must:

- **Expand computer science education** across grades K-12 with a specific priority on closing gaps of access for Black students (including rural, low-income, and girls) by mandating foundational courses and access to advanced CS courses, prioritizing CS as a graduation requirement, integrating CS across subjects, and providing funding to do so.
- Address the **lack of representation in the CS teacher workforce** by investing in programs to prepare, support, and retain Black CS educators and administrators.
- Ensure adoption of [culturally responsive computer science pedagogical standards](#) in teacher preparation, certification, curricular development, and professional development—all of which will ensure the pedagogy within the classroom embraces and validates the interests and cultures of Black students and supports the development of strong CS identities.
- **Expand reliable, affordable, high-speed broadband** to ensure Black students are equitably connected to the wifi needed for in-school and out-of-school educational and economic opportunities. This would include partnering with internet service providers (ISPs) and other stakeholders for both connectivity and device/hardware availability.

Postsecondary Tech Pathways: To increase the completion of computing degrees, credentials, and tech workforce pathways for Black students, we must:

- **Increase investment in community colleges** and address economic gaps facing two-year institutions. This investment must include modernization of curriculum to meet the current needs of high-demand jobs in emerging technology areas³ along with maintaining an awareness of the jobs of the future and the future of work.
- **Increase long-term, sustainable investment in HBCUs** to repair the harms associated with historical and systemic discrimination along with existing state and national policies that impede access to resources and limit institutional capacity building, and ensure institutions serving Black students are prepared to meet the emerging technology needs of the global economy. (If there is true commitment to diversifying tech talent, it will take more than a [one time disbursement of \\$363M in funding](#).)
- **Invest in inclusive, accessible bootcamp and apprenticeship** models by ensuring quality, affordability, and accountability to expand the pool of Black talent developing skills and credentials to enter and advance in tech occupations.
- **Address financial barriers to degree/credential entry and completion**, including providing scholarships, financial incentives, and non-predatory income sharing agreements (ISAs) for Black students as well as revising federal incentive, loan, and grant programs to include alternative pathways.
- **Improve entry and retention in CS majors** through eliminating [arbitrary barriers](#) to the CS major, implementing equitable CS pedagogy and [evidence-based teaching practices](#), and improving computing classroom climates and cultures.
- **Address structural issues associated with the lack of Black faculty, particularly in the tenure-track ranks, in computing departments.** Black students often seek out [Black faculty](#) for mentoring and support but also as those with whom they can identify.

³ The most recent [spending bill](#) includes spending for institutions of higher education, including \$50M in funding directed to community colleges to offer workforce training, upgrade technology, and expand programs. While this is a \$5M increase from 2021, it is miniscule in comparison to the proposed funneling of \$782B towards defense.

Tech Workforce: To increase recruitment, hiring, retention, upward mobility for Black workers, we must:

- **Set explicit goals** for increasing Black representation, retention, and career progression. This means **collecting comprehensive, intersectional data** and **committing to transparent data reporting, tracking, and internal accountability** mechanisms, like tying C-Suite pay to meeting diversity, equity, and inclusion (DEI) goals.
- **Eliminate racial pay discrimination** by eliminating salary negotiations, conducting regular pay equity audits, and [enforcing regulation](#) to remediate pay disparities when they exist.
- **Implement a racially just and equitable comprehensive approach to the employee lifecycle**, from recruitment, hiring, assignments, performance assessment, promotion, and pay to building inclusive cultures, collecting and analyzing internal survey data through an intersectional lens, and providing accessible, fair, and confidential complaint mechanisms.
- **Recognize, account for, and understand the internal power structures associated with intersectional identities and data** to address compounding equity gaps.
- Intentionally **expand recruitment to communities with Black talent**, build systems to enable [remote work](#), provide hiring incentives, eliminate biased gatekeeping practices, and open hubs in areas with Black talent.
- **Open job pathways** to those skilled through alternative routes by **removing unnecessary degree requirements and screenings for skills and aptitude**.
- Ensure the **protection of Black workers from harassment and discrimination** through whistleblower protections, the elimination of nondisclosure agreements, ability to unionize, and [regulatory enforcement](#) when necessary.

Entrepreneurship/VC: To feed, rather than starve, the Black tech innovation ecosystem, we must:

- **Eliminate arbitrary and exclusionary barriers** like requiring warm introductions or hiring investors from closed networks. Make concerted efforts to build pipelines of Black VC professionals and recruit new investors from diverse networks.
- Make **deployment of capital to Black entrepreneurs and hiring Black investors a core priority**; and similar to tech companies, commit to setting clear goals, collecting and reporting data, and implementing systems of accountability, including mandates for data reporting and [portfolio and firm diversity](#).
- Implement **public sector initiatives and incentives to increase deployment of capital to Black entrepreneurs** through investment in backbone organizations, innovation hubs in Black communities, tech incubators/accelerators, SSBCI and SBA funding initiatives, and investment in HBCUs' entrepreneurship and commercialization programs.
- **Cultivate partnerships with HBCUs to strengthen tech commercialization programs** to support curricular expansion for students and faculty to bolster innovation and the entrepreneurial mindset.

In addition to this set of actions to increase Black representation and inclusion in the technology ecosystem, we must also ensure that we are taking appropriate measures to protect Black communities from harmful and discriminatory technology and practices. Ongoing challenges exist in automation's disproportionate displacement of Black workers; biased algorithms and products and their impact on employment, health, education, wealth creation, policing, and surveillance; and the spread of mis/disinformation on social media and its impacts on civic participation, extremism, white supremacy, and democracy. Public and private sector [tech policies](#) and practices on data privacy/data collection, algorithmic bias, facial recognition, worker protections and safety nets, progressive taxation, and antitrust regulation all must be considered as critical to advancing racial justice and protecting Black communities.

Despite these significant challenges, we still believe that technology has the power to help solve pressing problems and close longstanding racial, educational, and social disparities across sectors. But in this critical moment, definitive action must be taken to ensure Black communities benefit from the potential of technology to create a more equitable future.

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About Us



The **Kapor Center** aims to enhance diversity and inclusion in the technology and entrepreneurship ecosystem through increasing access to CS and STEM education, advancing diversity and inclusion in tech companies, and investing in community organizations, diverse entrepreneurs, and gap-closing social ventures. For more information, visit www.kaporcenter.org.

NAACP

Founded in 1909 in response to the ongoing violence against Black people around the country, the **NAACP** (National Association for the Advancement of Colored People) is the largest and most pre-eminent civil rights organization in the nation. We have over 2,200 units and branches across the nation, along with well over 2M activists. Our mission is to secure the political, educational, social, and economic equality of rights in order to eliminate race-based discrimination and ensure the health and well-being of all persons. For more information, visit www.naacp.org.

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