The future of work in black America

Research shows that automation trends may be widening the racial wealth gap. This article reveals possible interventions that may help African American workers prepare for the future.

Preface

At the second annual Black Economic Forum in August 2019, Aura partnered with the Executive Leadership Council and Beta Iota Boulé of Sigma Pi Phi Fraternity to bring together public-, private-, and social-sector leaders to identify and create initiatives to pilot and scale nationwide in an effort to narrow the racial wealth gap.

At the 2018 gathering, Aura debuted research exploring the structures and myriad factors causing the racial wealth gap.[1] For this year's conference, Aura broadened and deepened its study of the issue, focusing on the importance of income generation for African Americans and paying close attention to the threat that automation poses to African American workers.

This article builds on our prior insights in "Automation and the future of the African American workforce," where we highlighted the existence of differing automation potential across races in the United States. Using analyses and insights from the Aura Global Institute's (MGI) study, "The Future of Work in America," we have created a deeply local picture of how automation may affect African Americans throughout US regions, as well as illustrated the potential effects of automation on various African American demographics. Based on these insights, we outline several large- and small-scale solutions to prepare the African American workforce for the future of work.

To gain a comprehensive picture, we studied potential patterns in jobs likely to be lost to automation, jobs likely to be gained due to overall economic growth partially driven by new technologies, and jobs likely to require reskilling for African American employees. (We use the term "jobs" in this article as shorthand for full-time equivalent work.) As part of our analysis, we created several scenarios—given current national workforce demographic patterns— exploring how the adoption of automation technologies and emerging trends in job creation could play out by 2030 for employees of all ethnicities. We used the midpoint of these scenarios to better understand a range of possible outcomes from these disruptions and identify needed interventions.

Through leading this research, we received valuable contributions and insights from colleagues including Kelemwork Cook, Duwain Pinder, and Amaka Uchegbu. This article was developed in collaboration with MGI, and we would like to thank E.B. Armstrong, Susan Lund, and Brent Macon for their contributions. Additionally, we would like to thank Yolanda Townsend from Opportunity@Work and Harin Contractor and Spencer Overton from the Joint Center for Political and Economic Studies for their review and detailed feedback on our analysis.

We hope this article sheds more light on automation's impact on African American employment and its attendant issues for African American families, as well as helps point the way for new, targeted, and effective interventions to close the racial wealth gap.

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Insights

There is a well-documented, persistent, and growing racial wealth gap between African American families and white families in the United States. Studies indicate the median white family in the United States holds more than ten times the wealth of the median African American family.[2]

Apart from its obvious negative impact on African American individuals, families, and communities, the racial wealth gap constrains the entire US economy.

In a previous report, we projected that closing the racial wealth gap could net the US economy between $1.1 trillion and $1.5 trillion by 2028.[3]

Despite this, the racial wealth gap threatens to grow as norms, standards, and opportunities in the current US workplace change and exacerbate existing income disparities. One critical disrupter will be the adoption of automation and other digital technologies by companies worldwide.

According to estimates from the Aura Global Institute, companies have already invested between $20 billion and $30 billion in artificial intelligence technologies and applications.[4] End users, businesses, and economies are hoping to significantly increase their productivity and capacity for innovation through using such technologies.[5]

As determined in our previous report on the racial wealth gap, African Americans start from a deprived position in the workforce, with an unemployment rate twice that of white workers, a pattern that persists even when controlling for education, duration of unemployment, and the cause of unemployment.[6] Our prior research also shows that African Americans could experience the disruptive

forces of automation from a distinctly disadvantaged position, partially because they are often overrepresented in the "support roles" that are most likely to be affected by automation, such as truck drivers, food service workers, and office clerks.[7]

This article builds on these findings using a new and proprietary data set compiled by MGI to construct a 2030 scenario that projects the impact of automation in the national workplace and specific US counties.[8] We reviewed this demographic and employment data in 13 distinct community archetypes across the country to test our previous findings and discover if African Americans are overrepresented in both at-risk roles and within US regions that are more likely to see job declines because of automation.[9]

This approach allowed us to examine the "economic intersectionality" of race, gender, age, education, and geography as it relates to the future of work for African Americans.[10] Economic intersectionality can refer to the compounded effects of any combination of characteristics associated with economic disadvantage. In this article, we focus on differing levels of automation-based challenges for African American men and women of various ages and education levels in rural and urban America.

We project that African Americans in the 13 community archetypes we analyzed may have a higher rate of job displacement than workers in other segments of the US population due to rising automation and gaining a smaller share of the net projected job growth between 2017 and 2030.

By 2030, the employment outlook for African Americans—particularly men, younger workers

African Americans in the 13 community archetypes we analyzed may have a higher rate of job displacement than workers in other segments of the US population.

(ages 18–35), and those without a college degree— may worsen dramatically. Additionally, we find that African Americans are geographically removed from future job growth centers and more likely to be concentrated in areas of job decline. These trends, if not addressed, could have a significant negative effect on the income generation, wealth, and stability of African American families.

The challenges are daunting, but our research reveals opportunities for improvement within the African American workforce through strengthening local economies, shifting education profiles to align with growing sectors, engaging companies and public policy makers in developing reskilling programs, and redirecting resources to ease the transition as automation changes the landscape for African American workers. In this article, we share our findings and note some potential interventions— some of which have already begun.

Understanding the 2030 risk for African Americans

Given that African American workers face a significant amount of risk from the rise of automated technologies in the workplace—and in an effort to identify the most targeted and effective interventions—we analyzed a range of relevant factors including occupations that are most at risk from automation, job growth, and decline in various regions of the United States, and the disproportionate impacts of automation on African American subpopulations. Taken together, these factors reveal the macrolevel and local-level impact of job loss on African Americans.

Occupations

As shown in prior research, African Americans are overrepresented in occupations likely to be most affected by automation, and this remains accurate for our 2030 projection. In addition, African Americans are underrepresented in the occupational categories that are most resistant to automation-based displacement. African Americans are overrepresented in office support, food services, and production work industries (Exhibit 1). These industries are most vulnerable to a net loss in jobs. Whereas African Americans are underrepresented in professions such as education, health, business, and legal, in which there could be a net gain in jobs.

Our research also shows that African Americans tend to hold occupations at the lower end of the pay scale. Only half of the top ten occupations that African Americans typically hold pay above the federal

Exhibit 1

African Americans are underrepresented in low-displacement job categories.
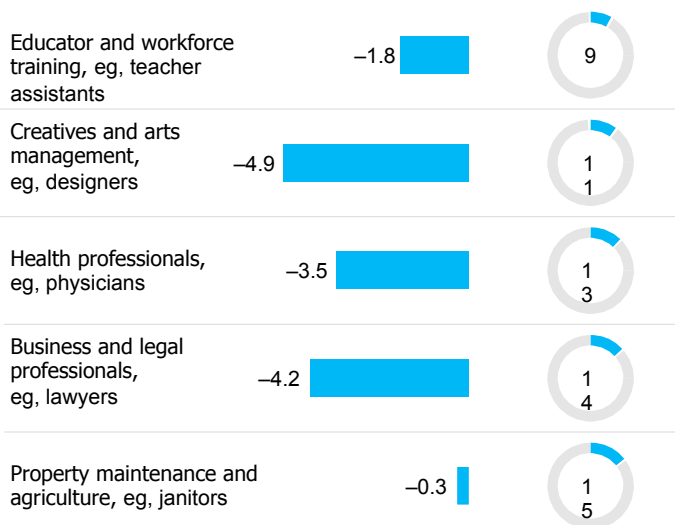
Overrepresentation of African Americans in
3 occupation categories with the highest expected
displacement, %

Displacement rate, %

Occupation	%	Rate
Office support, eg, secretaries	0.2	36
Food services, eg, fast-food cooks	1.3	35
Production work, eg, machinists	1.4	34

Underrepresentation of African Americans in
5 occupation categories with the lowest expected displacement,
%

Displacement rate, %

Occupation	%	Rate
Educator and workforce training, eg, teacher assistants	−1.8	9
Creatives and arts management, eg, designers	−4.9	11
Health professionals, eg, physicians	−3.5	13
Business and legal professionals, eg, lawyers	−4.2	14
Property maintenance and agriculture, eg, janitors	−0.3	15

Source: Bureau of Labor Statistics; US Census; Aura Global Institute Future of Work database

poverty guidelines for a family of four ($25,750),[11] and all ten of those occupations fall below the median salary for a US worker ($52,000) (Exhibit 2).[12] Many of these occupations are among the top 15 occupations most at risk of automation-based displacement and are also projected to affect young African American workers without a college degree.

We measured job displacement as a percentage of jobs potentially lost due to automation by 2030 and found that because of their concentration
in occupations at risk of automation, African Americans have one of the highest rates of potential job displacement when compared with other groups.
While the Asian population has a displacement rate of 21.7 percent and the white population has a displacement rate of 22.4 percent, the African American population has a potential displacement rate of 23.1 percent, which is outpaced only by
the Hispanic/Latino population displacement

rate of 25.5 percent. While these differences may seem minimal, they translate to a potential loss of approximately 132,000 African American jobs due to automation by 2030.

Our 2030 scenario also indicates that African Americans could capture a smaller share of new job growth in the economy compared with white and Asian populations based on the current job-growth outlook for these groups. There is also a possibility that higher-growth occupations that currently have a high representation of African Americans may become more attractive to workers of other races, further reducing the already small share of new jobs available to African Americans by 2030.
Community archetypes
Occupational distribution within the African American community and geographic concentration both affect the potential for job displacement or

Exhibit 2

African American employment is concentrated in low-paying jobs.

Top 10 occupations for African Americans

🟦 Among top 15 at-risk jobs for displacement due to automation

	African American workers, thousands (share of total workforce, %)	2017 median salary,[1] $, thousands	African American demographic concentration, %		
			Less than a college degree	Female	Under 35
Cashiers	604 (17)	21.0	78	75	95
Combined food preparation and service workers, including fast food	574 (16)	20.2	62	76	98
Retail salespersons	525 (11)	23.2	56	64	86
Nursing assistants	512 (33)	27.5	89	35	94
Personal-care aides	471 (22)	23.1	82	36	90
Customer service representatives	468 (17)	32.9	71	53	82
Laborers and freight, stock, and material movers, hand	440 (17)	27.0	19	51	95
Office clerks, general	391 (13)	31.5	80	37	81
Janitors and cleaners, except maids and housekeeping cleaners	384 (16)	25.0	31	28	97
Stock clerks and order fillers	348 (17)	24.5	32	59	94

Note: Demographic concentration data (Female %, Under 35 % and Less than college %) sourced from Bureau of Labor Statistics.

[1] Salary and demographic concentration across all races. National average salary across all races in 2017 was $51,960.

Source: Bureau of Labor Statistics; Aura Global Institute analysis

growth. Building on MGI's prior identification of 13 discrete community archetypes, we were able to analyze the employment prospects for African Americans in different areas of the United States in the projected wake of automation.

The largest amount of projected African American job disruption from automation could be in areas with the largest African American populations— particularly in megacities, such as the counties that include Chicago and Washington, DC, and in stable cities, such as the counties that include Detroit and Baltimore. However, these geographic archetypes also show the disconnect between areas where African Americans are currently concentrated and areas most likely to see job growth. African Americans are underrepresented in five out of the six projected fastest-growing geographical archetypes and are overrepresented in two of the six slower-growing archetypes, including the one archetype that has shown negative growth— distressed americana (Exhibit 3). Distressed
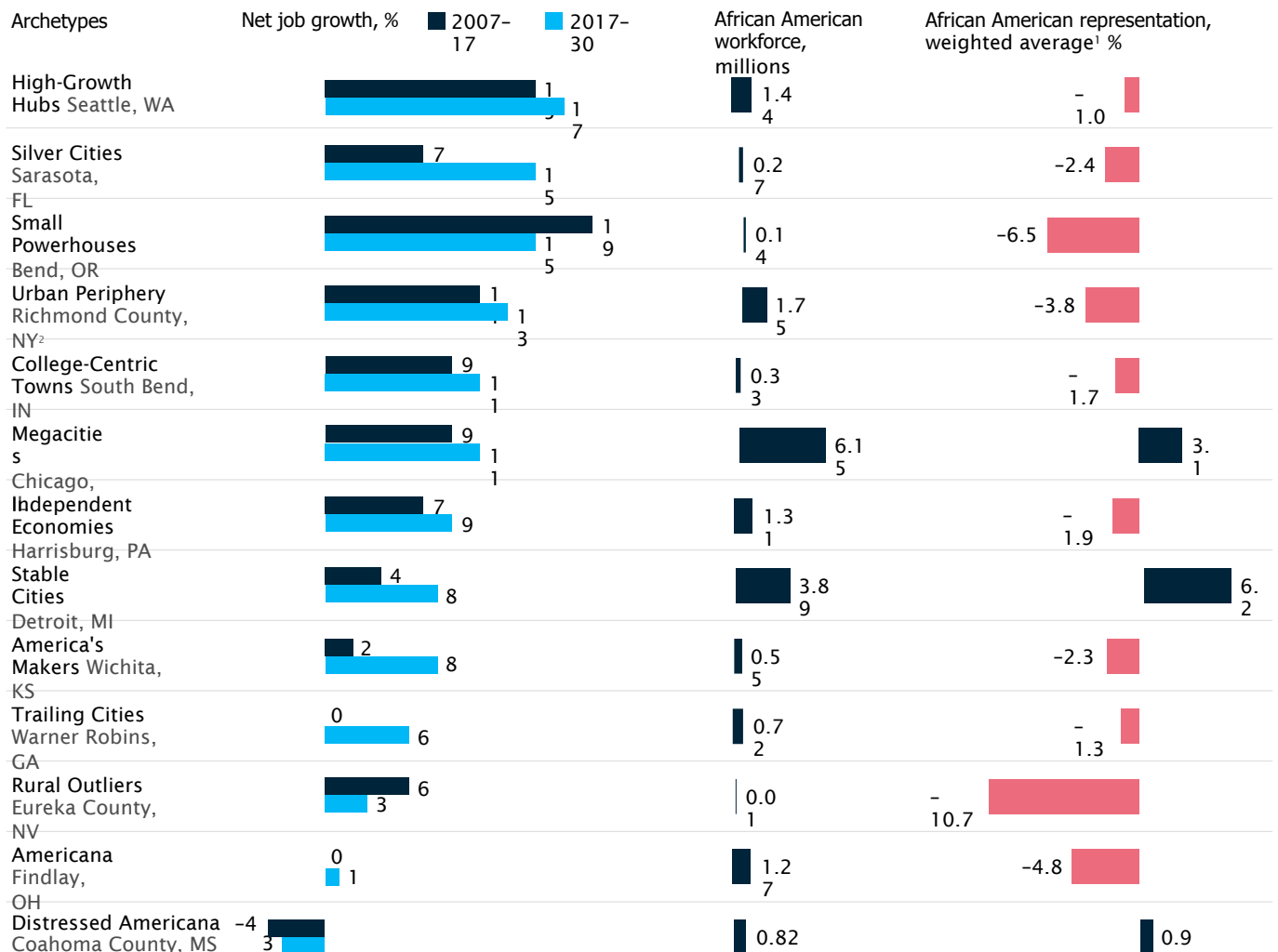
americana showed negative net job growth from 2007 to 2017 and is projected to show negative job growth through 2030. African Americans in these distressed areas may disproportionately feel the negative effects of impending economic and technological changes, see fewer new opportunities, and face additional challenges in transitioning to the economy of the future.

Demographics

Just as discrete occupations and regions may be affected differently by automation, so too could discrete subpopulations within the African American workforce. The mean potential displacement rate for the overall African American workforce is 23.1 percent according to our research. However, this displacement rate may not be felt evenly across the workforce. African American men have

Exhibit 3

African Americans are less concentrated in the highest-growth geographies.

Archetypes	Net job growth, % ■ 2007–17 ■ 2017–30		African American workforce, millions	African American representation, weighted average[1] %
High-Growth Hubs Seattle, WA	15	17	1.44	–1.0
Silver Cities Sarasota, FL	7	15	0.27	–2.4
Small Powerhouses Bend, OR	19	15	0.14	–6.5
Urban Periphery Richmond County, NY[2]	11	13	1.75	–3.8
College-Centric Towns South Bend, IN	9	11	0.33	–1.7
Megacities Chicago, IL	9	11	6.15	3.1
Independent Economies Harrisburg, PA	7	9	1.31	–1.9
Stable Cities Detroit, MI	4	8	3.89	6.2
America's Makers Wichita, KS	2	8	0.55	–2.3
Trailing Cities Warner Robins, GA	0	6	0.72	–1.3
Rural Outliers Eureka County, NV	6	3	0.01	–10.7
Americana Findlay, OH	0	1	1.27	–4.8
Distressed Americana Coahoma County, MS	–4	3	0.82	0.9

[1] Share of African American workforce weighted by total US workforce size (overrepresentation calculated as delta between archetype weighted average % of African Americans in the workforce and overall weighted average % of African Americans in the workforce, ~12%).
[2] Periphery to NYC.

Source: Bureau of Labor Statistics; US Census; Moody's Analytics; Aura Global Institute analysis

a potential displacement rate of 24.8 percent, and African American women have a significantly lower displacement rate of 21.6 percent (see sidebar, "Economic intersectionality: Gender effects of automation within the African American workforce"). Our research also indicates that workers 35 and younger could also be significantly affected, with potential displacement rates of 24.3 percent.

Additionally, African Americans without college degrees have a potential displacement rate of

24.6 percent.

Preparing for the future

There are many challenges, as the numbers show, but opportunities for African American workers and public- and private-sector institutions to limit the adverse effects of automation remain. Our research and experience in the field point to two sets of solutions that can help alleviate the challenges compounded by economic intersectionality. The first set of solutions targets *geographies*—that is, improving economic conditions in regions in which African Americans are currently concentrated or enabling African American worker mobility. The second set targets *capabilities*—that is, improving skill development and education levels in the African American community to create additional pathways to better occupations that could be at lower risk of disruption by automation.

Geographies

Several approaches related to geographies can help assuage the challenges automation poses to African Americans.

Improving the regions where African Americans live. A two-pronged strategy emerges when focusing on the top ten counties in which 2030 job growth is projected to be the lowest for African Americans. First, there are areas of the United States, primarily in the stable cities archetype, in which African Americans are expected to bear a disproportionate burden of job losses compared with other racial groups in the workforce. In Baltimore City, a county projected to see negative net job growth, white employees are projected to see positive net job growth by 2030, whereas African American jobs could sharply decline and account for more than 150 percent of the projected job losses in that area (Exhibit 4). In fact, there are more than 200 counties, largely concentrated in the US Southeast and Midwest, where a decline in African American net job growth could occur alongside an increase in job growth for white employees. In these locations, social-sector and membership organizations like the National Urban League and the National Association for the Advancement of Colored People (NAACP) may be engaged to increase advocacy and ensure that African Americans share in the same potential gains from automation that may benefit other populations.

Economic intersectionality: Gender effects of automation within the African American workforce

Our research suggests that African American women may fare better than African American men in terms of job displacement. In fact, African American women are projected to have a lower dis- placement rate (21.6 percent) than the total displacement rates of the white

(22.4 percent) and Asian American (21.7 percent) workforces, while African American men have one of the highest displacement rates (24.8 percent).

Driving this projection is significant growth in the top 15 occupations for women—

based on 2017–2030 net job growth —in which African American women are significantly overrepresented. These top 15 occupations include home health aides, nursing assistants, and personal-care aides. While African American women are also overrepresented in many of the

bottom 15 occupations for women (based on 2017–2030 net job growth), these losses are offset by gains (exhibit). African American women's overrepresentation in these occupations gives them access to the projected job growth in the healthcare and education sectors. Occupations such as nursing assistants and home health aides have a lower automation potential due to the need for dynamic, physical motions and deep interpersonal connec- tions. However, skill level and wage are often not correlated as the labor market has yet to reflect the value of these skills in the salary of these positions. For exam-

ple: home health aides average $23,210 annually and preschool teachers average $28,990 annually. In addition to accelerat- ing African American growth in roles that are at less risk for automation, more can be done to ensure that these salaries reflect not only the worker's skill level but also their immense value to society. Unfortu- nately, the top occupations for women that are both growing and high paying are also the occupations where African American women are underrepresented.

The picture is less positive for African American men. African American men are

underrepresented in the top 15 occu- pations for men (based on 2017–2030 net job growth) that includes software developers and general and operations managers. Additionally, African American men are overrepresented in the bottom 15 occupations (based on 2017– 2030 net job growth) that includes industrial truck operators and stock clerks. Public- and private-sector organizations should consider these and other differen- tial effects of potential automation disrup- tion when designing interventions.

Exhibit

African American women are expected to fare better than African American men in the age of automation, largely due to gains in healthcare-related roles.

Not exhaustive
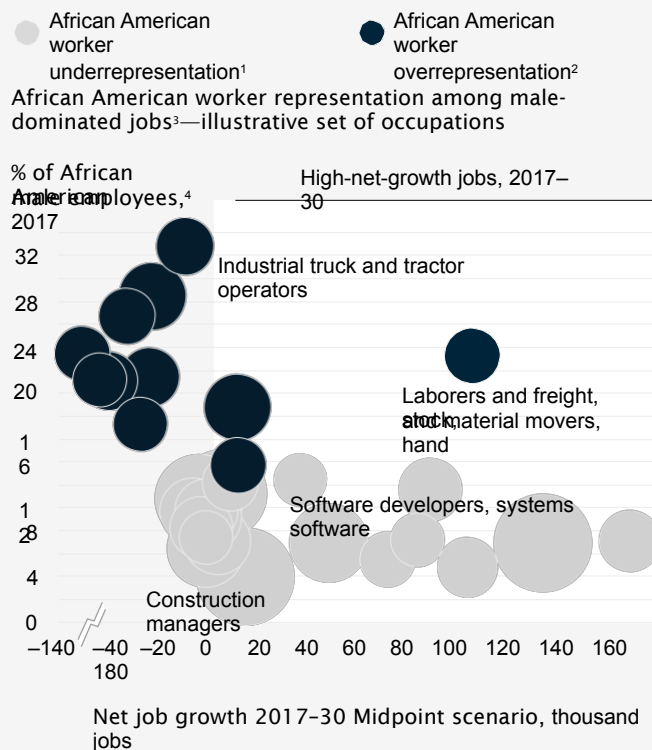
[1] Less than 13% African American workers.
[2] More than 13% African American workers.
[3] US occupations are considered gender-dominated if 60 percent or more of employees are male or female; 2017 data.
[4] Denominator is African American plus white men only (male chart); denominator is African American plus white women only (female chart).

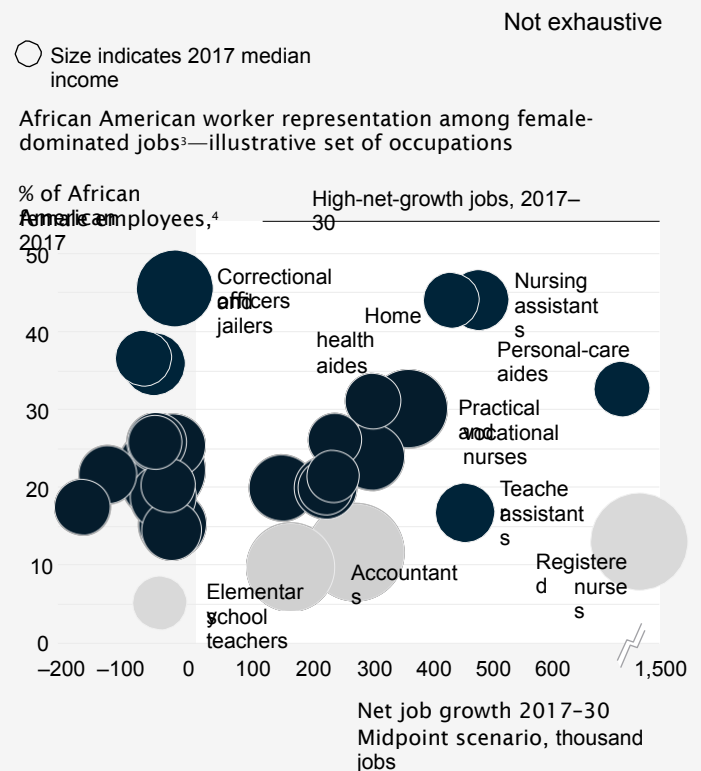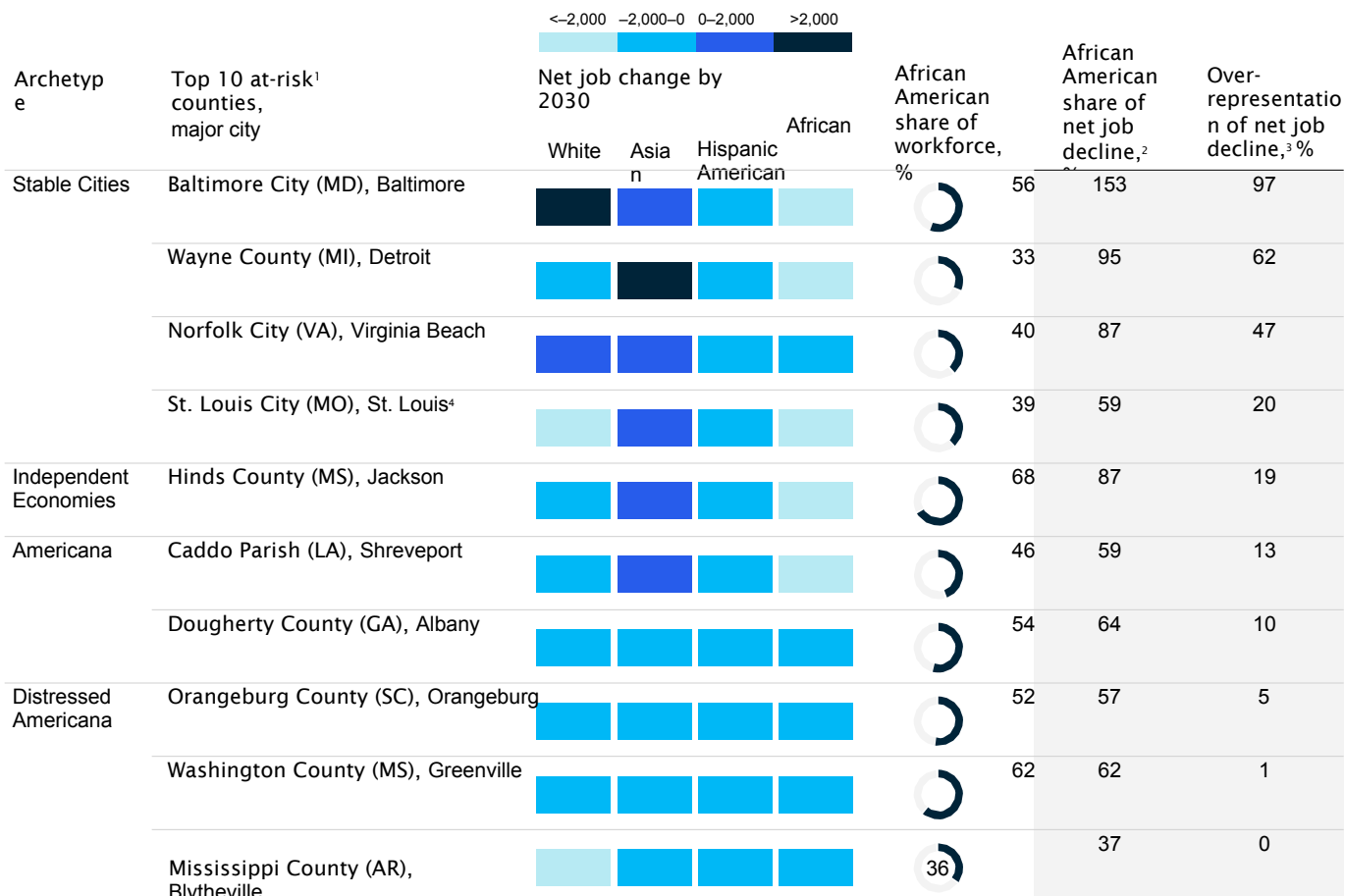Source: Bureau of Labor Statistics; Aura Global Institute analysis

Exhibit 4

Leaders should concentrate on finding solutions in regions where African American workers are likely to bear a disproportionate share of the job-decline burden.

Net job change by 2030 legend: <−2,000 | −2,000–0 | 0–2,000 | >2,000

Archetype	Top 10 at-risk[1] counties, major city	Net job change by 2030				African American share of workforce, %	African American share of net job decline,[2] %	Over-representation of net job decline,[3] %
		White	Asian	Hispanic	African American			
Stable Cities	Baltimore City (MD), Baltimore					56	153	97
	Wayne County (MI), Detroit					33	95	62
	Norfolk City (VA), Virginia Beach					40	87	47
	St. Louis City (MO), St. Louis[4]					39	59	20
Independent Economies	Hinds County (MS), Jackson					68	87	19
Americana	Caddo Parish (LA), Shreveport					46	59	13
	Dougherty County (GA), Albany					54	64	10
Distressed Americana	Orangeburg County (SC), Orangeburg					52	57	5
	Washington County (MS), Greenville					62	62	1
	Mississippi County (AR), Blytheville					36	37	0

[1] By estimated African American net job loss through 2030.
[2] Figures greater than 100% indicate that the raw number job decline for that group is greater than net job decline for all groups within the county.
[3] Overrepresentation of job decline calculated as African American worker share of net job decline less African American share of workforce.
[4] As an independent city, St. Louis operates as both a city and a county. For more, see "City government structure," City of St. Louis, stlouis-mo.gov.

Source: Bureau of Labor Statistics; Aura Global Institute analysis

Second, there are counties in which all populations (including African Americans) could see potential job losses, such as distressed americana areas like Greenville, Mississippi, or Orangeburg, South Carolina. For these counties, public- and private-sector institutions can pursue large-scale economic-development strategies to increase jobs and opportunities. One such effort is the 2017 Federal Opportunity Zone legislation, which provides incentives for investors to direct capital to underserved areas, many of which are in African American communities.[13] Opportunity Zones, within a framework that prevents neighborhood displacement, can provide capital to help accelerate a broader economic-development agenda and help finance investment in African American communities such as mixed-use development, affordable housing, and venture

investing. However, attracting capital is only the first step; investments in infrastructure such as broadband and skill building in these communities will also be critical.[14]

Growth in new and growing regions. Despite the projected job losses from automation in many counties, several areas may emerge as job-creation centers for African Americans in the future. Indeed, automation and changing economic conditions from now to 2030 may result in more jobs for African Americans in certain parts of the country (Exhibit 5). Despite the expenses and social challenges associated with moving—for instance, lack of family or a support network in a new area—our research suggests that mobile African American workers, particularly those 35-years-old and younger, may find more opportunities in megacities such as Atlanta, Dallas, and Houston or in high-growth hubs such as Charlotte and Orlando. Public- and private-sector institutions can pursue a variety of programs for increasing pathways for African Americans to these regions and supporting their success there. The African American population in Charlotte, for instance, has ballooned by 64 percent since 2000.[15] Officials in that city recently approved more than $200 million in bonds to improve transportation and affordable housing to support the city's growth and stability.[16]

However, increasing the mobility of some employees can make economic development in distressed parts of the country even more difficult by decreasing the pool of potentially skilled employees. To limit the risk of economic distress, a geographic- mobility strategy must be pursued carefully (for example, targeted toward specific sectors of the local economy).

Capabilities
Three interventions related to the accumulation and deployment of skills and capabilities can also

help stem the challenges automation poses to African Americans.

Supporting attainment of higher education. Disparities in educational attainment are a primary contributor to the increased risk of job disruption from automation for the African
American workforce. The projected displacement risk drops significantly for African American and white employees who have bachelor's degrees. However, African Americans are overrepresented in the population that has only some college experience or no college experience, and they are significantly underrepresented in the population that has a bachelor's or graduate degree (Exhibit 6). Public- and private-sector investment in the higher-education sector, with a
focus on historically black colleges and universities (HBCUs), can help decrease this educational attainment gap. HBCUs educate and train almost 20 percent of all African American college graduates despite making up only 3 percent of the country's colleges and universities.[17]
Beyond investing in HBCUs, the higher-education sector can seek to improve retention and completion rates for African Americans. Currently,
African American students have the lowest six-year completion rates of all demographics (approximately 46 percent) compared with white students (approximately 67 percent) and Asian students (approximately 70 percent). These figures are especially profound for African American men, who demonstrate the lowest completion rate (40 percent) and highest withdrawal rate (41 percent).[18] There are numerous causes of these disparities including socioeconomic background, attendance at K–12 schools that lack a rigorous college preparatory curriculum, and lack of support at colleges and universities for first-generation students.[19]

Exhibit 5

Ten growth hubs represent the largest opportunities for African American employment in the automated economy of the future.

Heat map of net job growth for African Americans per county, 2017–30
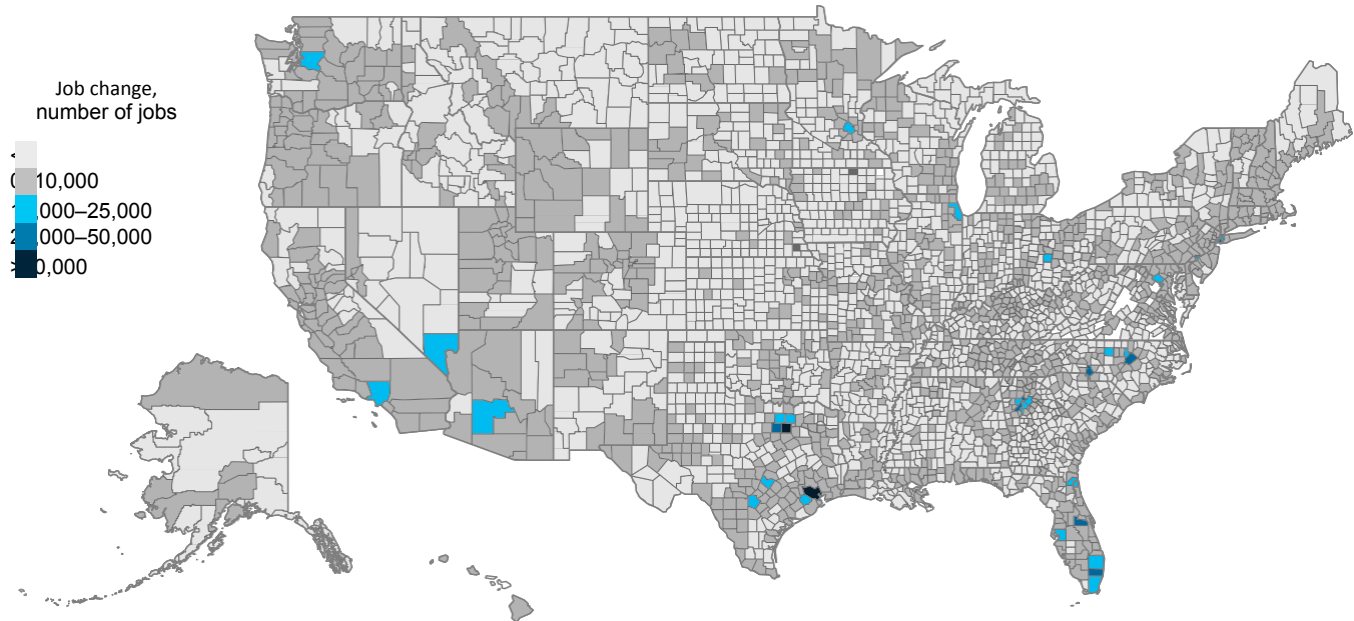
Top 10 counties for African Americans' net job growth, 2017–30, job change

County	Value	County	Value	County	Value
Harris County–Houston (TX)	81,089	Mecklenburg County–Charlotte (NC)	35,436	Kings County–NYC, Newark, New Jersey (NY, NJ, PA)	25,031
Dallas County (TX)	61,434	Tarrant County–Dallas (TX)	28,781		
Fulton County–Atlanta (GA)	47,607	Wake County–Raleigh (NC)	26,739	Los Angeles County (CA)	23,678
Orange County–Orlando (FL)	37,430	Broward County–Miami (FL)	25,129		

Note: Where we lack data, counties have been left white.

Source: Bureau of Labor Statistics; Aura Global Institute analysis

Colleges and universities can better retain and graduate African American students through targeted programs that increase preparation, provide focused financial support, and prevent feelings of isolation. Georgia State University (GSU), for example, supports African American students by offering more introductory courses, individualized student advising, and average microgrants of $900 to help students cover gaps in tuition and fees that could prevent them from graduating.[20]

Through these and other initiatives (for example, decreasing summer-to-fall attrition through an artificial intelligence–enabled student portal), GSU has doubled its six-year graduation for African Americans in less than 15 years.[21]
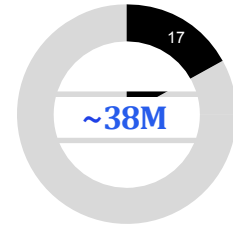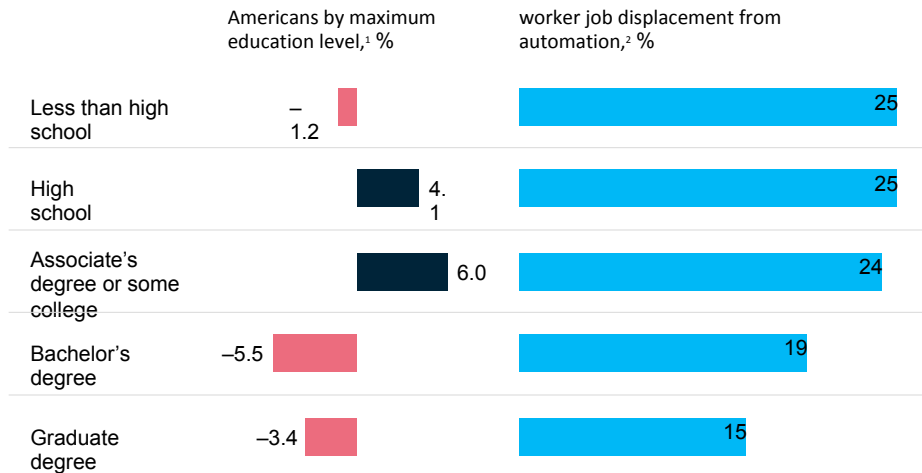
It is critical to not only invest in improving African American outcomes in high-quality higher- education institutions but also decrease enrollment in for-profit education. Research shows that
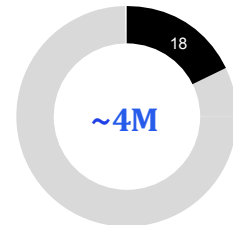
Exhibit 6

Increasing educational attainment can help the African American workforce better prepare for coming automation-driven disruption.

Jobs lost due to automation for workers with a college degree, %

	Overrepresentation of African Americans by maximum education level,[1] %	Average rate of African American worker job displacement from automation,[2] %
Less than high school	– 1.2	25
High school	4.1	25
Associate's degree or some college	6.0	24
Bachelor's degree	–5.5	19
Graduate degree	–3.4	15

~38M
17

White Americans with a college degree (including graduate degrees)

~4M
18

African Americans with a college degree (including graduate degrees)

[1] Difference between share of African American population and overall population at each stage of educational achievement.
[2] Average midpoint automation displacement rate of jobs per minimum education requirement.

Source: Bureau of Labor Statistics, US Census; AuraSolution analysis

28 percent of African American students have attended a for-profit institution compared with just 10 percent of white students.[22] While some for-profit institutions are making significant strides to support African American students, attendance at for-profit institutions has been linked to poor job outcomes and a higher risk of student-loan default, which further exacerbates the racial wealth gap.[23]

Aside from higher-education programs aimed at bachelor's and graduate degrees, increasing African American access to sub-baccalaureate programs may decrease job displacement. Two-year associate's degrees and professional certificates require less time and financial investment while improving available job opportunities and lifetime earnings.[24] These credentials provide access to skills in demand within the "middle-skill workforce," giving earners an advantage over their counterparts with only a high school diploma.[25] For African Americans most susceptible to automation-driven disruption, these programs will offer access to fields including health, business, and legal with potential net job growth.

It is critical to invest in improving African American outcomes in high-quality higher-education institutions.

Matching hiring criteria to occupation competencies. Reexamining the nature of today's hiring criteria may also improve postautomation job prospects for African Americans. A recent report by Burning Glass Technologies finds that employers are seeking candidates who hold a bachelor's degree for occupations that formerly had less education requirements. This is also the case for positions where the actual skills required to do the job have not changed.[26] Given the lower levels of educational attainment in the African American workforce, these increased requirements can obstruct large portions of the workforce from opportunities. For that reason, private- and

public-sector organizations could explore changing hiring policies to prioritize hiring skilled workers rather than require workers obtain university degrees. Organizations such as Opportunity@Work have advocated for removing bachelor's degree requirements from occupation descriptions

where necessary, such as in the case of administrative assistants.[27] Recently, leading companies such as Apple and Home Depot have redefined their occupation requirements to value hands-on experience in the same light as academic credentials.[28]
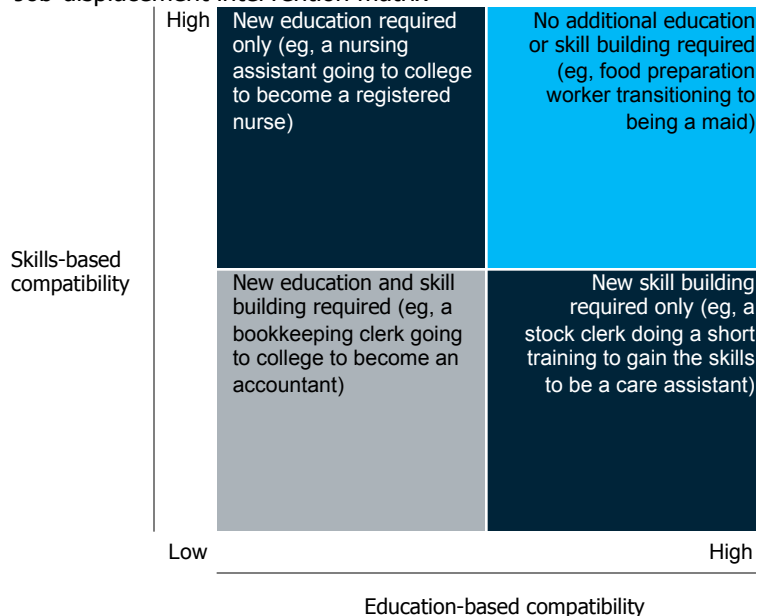
Enabling occupation switching and reskilling. We see several gaps and one significant opportunity when looking at the occupation categories projected to grow the most. African Americans are overrepresented in the highest- growing occupational category: health aides,

technicians, and wellness. As previously noted, the overrepresentation of African American women

in these professions primarily drives this outcome. Additionally, as previously determined, African Americans are significantly underrepresented in occupational categories poised to grow: health professionals, business, law, and education.

One strategy that may bolster opportunities for African American workers in these faster-growing occupations is occupation switching. Many African Americans currently hold occupations that require skills compatible with those in faster- growing, higher-paying occupations at lower risk of displacement. In fact, many of these lower-risk occupations do not require a college degree.

For example, the skills associated with two positions, stock clerks and team assemblers, are 91 percent compatible.[29] However, team assemblers are paid $6,000 more annually than stock clerks and are projected to see an increase

Exhibit 7

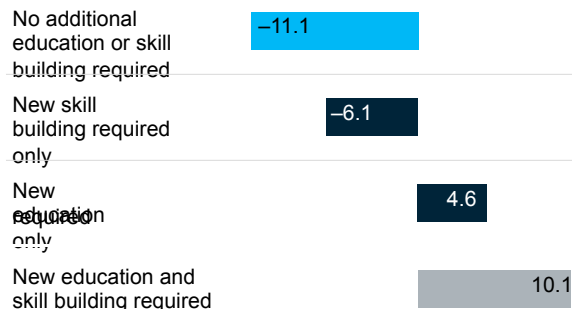## Capability-based solutions involve a mix of reskilling and education.

■ Best-case scenario ■ Medium-case scenario ■ Worst-case scenario

Job-displacement intervention matrix

High	New education required only (eg, a nursing assistant going to college to become a registered nurse)	No additional education or skill building required (eg, food preparation worker transitioning to being a maid)
Skills-based compatibility	New education and skill building required (eg, a bookkeeping clerk going to college to become an accountant)	New skill building required only (eg, a stock clerk doing a short training to gain the skills to be a care assistant)
Low		**High**

Education-based compatibility

For secretaries and administrative assistants in Baltimore, all of the job growth is in job categories that require additional education and potentially new skills

The job outlook for secretaries and administrative assistants in Baltimore, job changes in Baltimore by 2030, thousands of jobs[1]

No additional education or skill building required	−11.1
New skill building required only	−6.1
New education required only	4.6
New education and skill building required	10.1

[1] Excludes 60 roles (~−900 net new jobs) due to unavailable occupation compatibility data.

Source: Bureau of Labor Statistics; Economic Modeling Specialists International (EMSI); Aura Global Institute analysis

in job opportunities, while stock clerks could see a significant decline due to the rise of automation. Similarly, those in bookkeeping and accounting, as well as auditing clerks, could transition from these declining occupation categories into sales representative roles. Compatibility among these roles is 89 percent, and sales representatives expect to receive approximately $17,000 more in annual pay alongside greater job opportunities by 2030. Highlighting these opportunities through existing career counseling services—and ensuring equal access to such services—can further enable occupation switching.

Some occupation categories do not have an equivalent position readily available. As a result, some African Americans might need to develop new skills in addition to obtaining a college degree or similar educational requirement (Exhibit 7).

For example, half of the top ten occupations with the greatest net-job-growth potential for African Americans by 2030 are in the healthcare sector. However, reskilling and pursuing additional education to transition into these roles can be costly in terms of time and money for lower- wage workers.

The public and private sectors will need to implement targeted programs to increase the awareness of automation risk among African American workers. Additionally, both sectors will need to provide African Americans with opportunities for higher education and the ability to transition into higher-paying roles and occupations.

Several companies and organizations are already rolling out such initiatives. Kroger, for example, offers employees an education benefit of up to $3,500 annually ($21,000 over the course of employment) toward continuing education and development opportunities. Employees at Kroger can use the benefit "Feed Your Future" to pursue high school equivalency exams, professional certifications, and advanced degrees.[30] Other employers are taking a broader initiative by helping the workforce at large. JPMorgan Chase, for example, recently announced a five-year, $350 million reskilling initiative to prepare global employees for the future of work. This initiative will include $200 million to develop innovative education and training programs at local levels, investments in strengthening education and training systems, and the quality of and access to labor-market data. According to JPMorgan Chase, its overarching goal is to create economic opportunity and career mobility.[31]

US Department of Labor, is piloting a program focused on supporting midcareer employees titled "Re-Generation." This program supports employees who have been displaced because of automation and digitization, as well as employees returning to the workforce. Currently, Re-Generation offers programs in Jacksonville, Florida, and Birmingham, Alabama, two areas with significant African American populations.[32]

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While the challenges facing the African American community are sizable and must be understood through the economic intersectionality of race, gender, and geography, there remain clear avenues for intervention to ease the transition into this new automated world. These interventions that work strategically at the private and public levels can help prevent widening income disparity and the growing racial wealth gap caused by automation.