



DIGITAL INCLUSION INDEX™

SAVE OUR CITIES

POWERING **THE** DIGITAL REVOLUTION

STATE OF BLACK AMERICA® 2018

A NATIONAL URBAN LEAGUE PUBLICATION
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NATIONAL URBAN LEAGUE ... 2018 DIGITAL INCLUSION INDEX™

OVERVIEW

DIGITAL INCLUSION

Computers, smart phones and tablets have become such a routine part of everyday life that few of us can imagine getting through a day without them. According to the 2018 National Urban League Equality Index™, there is a computer in nearly every American household—93.6 percent of white homes and 89.3 percent of African-American homes.

However, the concept of digital inclusion goes beyond whether every home has a computer and internet access. Rather, the more relevant question is: “Are the new job, business and educational opportunities created by increased digitization of our world being equally shared?”

To answer this question, the 2018 *State of Black America* includes a stand-alone Digital Inclusion Index that is calculated using the same methodology for the Equality Index. Total or overall digital equality is measured across three basic areas: digital skills and occupations (35% of total), digital access (35% of total), and digital policy (30% of total).

Based on these markers, the total 2018 Digital Inclusion Index is 74.1 percent, but the range of indicators used to calculate the index includes both areas where African Americans exceed whites (an index value over 100) as well as those characterized by stark inequality (an index value between 0 and 50).

The companion table includes the full set of data points gathered to compile the Digital Inclusion Index. The following are a few key indicators with below or above average equality relative to the overall Digital Inclusion Index of 74.1 percent.



89.3%

**OF BLACK HOUSEHOLDS
HAVE A COMPUTER**

(+2.5% from 2017)

AREAS OF BELOW AVERAGE DIGITAL EQUALITY

The percentage of Blacks and whites with STEM degrees and certificates or employed in the tech industry are areas where there is less equality than measured by the overall Digital Inclusion Index. The Bureau of Labor Statistics collectively defines the tech industry as any industry in which at least 14.5 percent of jobs are in STEM occupations. STEM workers include various types of engineers, IT workers, scientists, postsecondary teachers and managers of these employees. Only 8.2 percent of all degrees conferred to Blacks in 2015–2016 were in STEM fields and just 5.7 percent of total Black employment in 2017 was in the tech industry. By contrast, 12.8 percent of degrees and certificates conferred to whites were in STEM, and 8.5 percent of white workers were employed in the tech industry.

Racial diversity in social media and technology companies is an area where the equality gap is starkly wider. As reported in the Digital Inclusion Index, in the vast majority of companies, fewer than five percent of the workforce is African American. By contrast, at least half of the workforce in these companies is white.

In higher education, historically Black college and universities (HBCUs) receive fewer research and development (R&D) dollars per student and spend less on R&D per student compared to other universities. While one might expect total R&D dollars to be lower at HBCUs than non-HBCUs based on the fact that on average HBCUs are smaller schools, the wide gap in per student dollars is troubling. The average HBCU receives just 10.2 percent of the federal per student R&D funds that go to non-HBCUs and spends just 7.9 percent of what the average non-HBCU spends on R&D per student.

FEWER THAN

5%

**OF THE DIGITAL WORKFORCE
IS AFRICAN AMERICAN**

IN THE VAST MAJORITY OF COMPANIES

(at least half of the workforce in these companies is white)



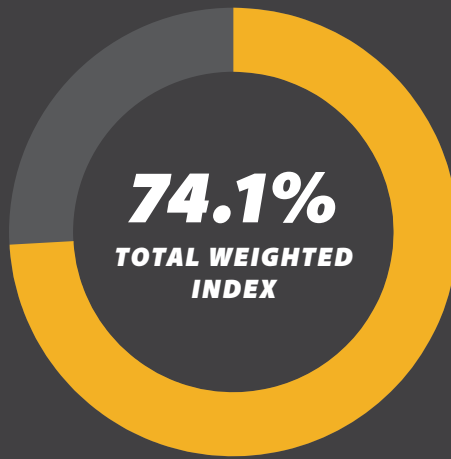
AREAS OF ABOVE AVERAGE DIGITAL EQUALITY

Although African Americans are less likely than whites to receive STEM degrees in general, one particular kind of STEM degree is actually more common among African Americans than whites. In 2015–2016, 2.8 percent of African Americans and 2.6 percent of whites earned degrees in computer and data science.

While African Americans with doctoral degrees in science and engineering don't have the same outcomes as their white counterparts, they are closer to parity than the average worker. For example, the median salary of full-time employed African-American doctoral scientists and engineers in computer/information science occupations is 92.8 percent that of whites. They are also nearly as likely to be employed as associate professors—2.6 percent of Blacks and 2.8 percent of whites (index of 95.1 percent). However, larger gaps exist at the full professor (index of 79.8 percent) and assistant professor (index of 64.5 percent) levels. Since research is essential to career success at this level, the ability to secure funding is critical. 24.6 percent of African-American doctoral scientists and engineers receive federal support, compared to 28.8 percent of whites.

Finally, based on the geography of the country's technological infrastructures, cities where over half the residents are African American are more likely than cities where a majority of residents are white to have lower monthly costs of high speed broadband, better mobile speeds and reliability (as measured by the percentage of dropped calls) and Smart City projects. Examples of majority Black cities include New Orleans, LA, Montgomery, AL and Savannah, GA. Examples of majority white cities include Scottsdale, AZ, Saline, MI and Fort Collins, CO. It is important to note that majority Black or majority white cities may not be representative of where most of the population lives; therefore, national access could be very different than indicated by these measures. Further, given the segregated nature of most American cities, the presence of these various forms of technological infrastructure in a city does not necessarily guarantee equal access to them.





2018 DIGITAL INCLUSION INDEX

	SOURCE	YEAR	BLACK	WHITE	INDEX
DIGITAL SKILLS & OCCUPATIONS (35%)					
% of STEM Degrees/Certificates Conferred By Race	NCES	2015–2016	8.2	12.8	64.0%
% of All Jobs in Tech Industry Held By Each Race	BLS	2017	5.7	8.5	67.2%
Racial Makeup of Employees at Select Social Media and Technology Companies (Compiled from Company Press Reports)					
% Social Media Sites					
Facebook	InformationIsBeautiful	2016	3	49	6.1%
Instagram	InformationIsBeautiful	2016	3	49	6.1%
Google	InformationIsBeautiful	2016	2	56	3.6%
YouTube	InformationIsBeautiful	2016	2	56	3.6%
LinkedIn	InformationIsBeautiful	2016	4	52	7.7%
Pinterest	InformationIsBeautiful	2016	3	48	6.3%
Tumblr	InformationIsBeautiful	2016	2	45	4.4%
Flickr	InformationIsBeautiful	2016	2	45	4.4%
Twitter	InformationIsBeautiful	2016	3	57	5.3%
% Tech Companies					
Yahoo!	InformationIsBeautiful	2016	2	45	4.4%
Google	InformationIsBeautiful	2016	2	56	3.6%
Apple	InformationIsBeautiful	2016	9	54	16.7%
Cisco	InformationIsBeautiful	2016	4	53	7.5%
eBay	InformationIsBeautiful	2016	2	52	3.8%
HP	InformationIsBeautiful	2016	4	73	5.5%
Indiegogo	InformationIsBeautiful	2016	4	58	6.9%
Nvidia	InformationIsBeautiful	2016	1	37	2.7%
Dell	InformationIsBeautiful	2016	10	69	14.5%

2018 DIGITAL INCLUSION INDEX	SOURCE	YEAR	BLACK	WHITE	INDEX
<i>Ingram Micro</i>	InformationIsBeautiful	2016	14	52	26.9%
<i>Intel</i>	InformationIsBeautiful	2016	4	48	8.3%
<i>Groupm</i>	InformationIsBeautiful	2016	8	62	12.9%
<i>Amazon</i>	InformationIsBeautiful	2016	21	48	43.8%
<i>Etsy</i>	InformationIsBeautiful	2016	3	79	3.8%
<i>Microsoft</i>	InformationIsBeautiful	2016	4	56	7.1%
<i>Salesforce</i>	InformationIsBeautiful	2016	3	65	4.6%
<i>Pandora</i>	InformationIsBeautiful	2016	5	65	7.7%
<i>Uber</i>	InformationIsBeautiful	2016	9	50	18.0%
Median Weekly Earnings of Technology Related Occupations, U.S. Dollars	BLS	2016	1,138	1,446	78.7%
Median Annual Salaries of Full-Time Employed Doctoral Scientists and Engineers in Computer/ Information Science Occupations, U.S. Dollars					
Total	NSF	2015	116,000	125,000	92.8%
Male	NSF	2015	123,000	129,000	95.3%
Female	NSF	2015	102,000	117,000	87.2%
% of All High Skill Digital Occupations Held By Each Race (Digital Occupation Defined By Brookings, Scoring 60 Points and Above)	BLS, Brookings	2017	23.7	29.7	79.8%
% of Social Media Usage, Per Race					
Total	PEW	2018	69	68	101.5%
LinkedIn	PEW	2018	28	26	107.7%
Facebook	PEW	2018	70	67	104.5%
% of Degrees in Computer and Data Science By Race					
	NCES	2015–2016	2.8	2.6	106.5%
% of Students Enrolled at Top 25 STEM Colleges/ Universities, Per Race					
	Forbes, CollegeData, CollegeFactual, NCES	2016–2017	0.2	0.6	36.9%
DIGITAL ACCESS (35%)					
Technology Incubators Targeted for Minority Startups	NBIA	2012	8.0	69.0	11.6%
Monthly Cost of High Speed Broadband Among Black Vs. White Majority Cities, U.S. Dollars	Numbeo, ACS	2018	55.7	60.1	107.9%
Use of High Speed Broadband	ACS	2016	77.4	87.4	88.6%
Technology Use					
Desktop Computer Use	NTIA	2015	28.8	37.6	76.7%
Laptop Computer Use	NTIA	2015	37.9	50.9	74.6%
Mobile Internet Service Used Outside the Home	NTIA	2015	22.6	26.4	85.7%
% of Employed Doctoral Scientists and Engineers in 4-Year Educational Institutions in the Computer/ Information Sciences Field, Per Race					
Full Professor	NSF	2015	1.8	2.2	79.8%
Associate Professor	NSF	2015	2.6	2.8	95.1%
Assistant Professor	NSF	2015	1.7	2.7	64.5%
% of STEM High Schools Per Black Vs. White Majority Cities (Based on U.S. News Ranking of the Top 251 STEM High Schools)	US News	2017	0.51	0.79	64.1%

2018 DIGITAL INCLUSION INDEX	SOURCE	YEAR	BLACK	WHITE	INDEX
Technology Company Diversity Commitments/ Goals (Based on the Top 20 Fortune 500 Technology Companies)	Fortune	2018	20	20	100.0%
% of School Districts That Have Signed the Future Ready District Pledge	FutureReady, ACS	2018	50.6	38.5	131.4%
DIGITAL POLICY (30%)					
Smart City Projects, % Per Black Vs. White Majority Cities	TMT, ACS	2018	0.42	0.27	158.0%
Mobile Speeds and Reliability (% of Dropped Calls Among Black Vs. White Majority Cities)	Rootmetrics, ACS	2018	0.35	0.39	90.6%
Average R&D Expenditures, HBCUs Vs. Non-HBCUs (Thousands of U.S. Dollars)	NSF	2016	10,920	121,200	9.0%
Average of Funds Going to HBCUs Vs. Non-HBCUs By Source (Thousands of U.S. Dollars)					
Federal Government	NSF	2016	8,535	65,221	13.1%
State and Local Government	NSF	2016	585	6,794	8.6%
Institution Funds	NSF	2016	1,645	30,970	5.3%
Business	NSF	2016	99	7,164	1.4%
Nonprofit Organizations	NSF	2016	206	7,870	2.6%
Others	NSF	2016	72	3,766	1.9%
Average R&D Expenditure Per Student, HBCUs Vs. Non-HBCUs	NSF, NCES	2016	2,457	30,925	7.9%
Average of R&D Funds Going to HBCUs Vs. Non-HBCUs By Source, Per Student, U.S. Dollars					
Federal Government	NSF, NCES	2016	1,624	15,965	10.2%
State and Local Government	NSF, NCES	2016	160	1,876	8.5%
Institution Funds	NSF, NCES	2016	436	8,346	5.2%
Business	NSF, NCES	2016	135	1,634	8.3%
Nonprofit Organizations	NSF, NCES	2016	89	2,386	3.7%
Others	NSF, NCES	2016	19	962	2.0%
% of Doctoral Scientists and Engineers Receiving Federal Support					
Total	NSF	2015	24.6	28.8	85.3%
Male	NSF	2015	25.6	30.2	84.7%
Female	NSF	2015	23.8	26.2	90.8%

SOURCE	ACRONYM
American Community Survey	ACS
U.S. Bureau of Labor Statistics	BLS
Brookings	—
CollegeData	—
CollegeFactual	—
Forbes	—
Fortune	—
FutureReady	—
InformationIsBeautiful	—
National Business Incubation Association	NBIA
National Center for Education Statistics	NCES
National Science Foundation	NSF
National Telecommunications and Information Administration	NTIA
Numbeo	—
Pew Research Center	PEW
Rootmetrics	—
IHS Markit Technology, Media, and Telecom	TMT
U.S. News	—

●●●●● **SUPPORT THE WORK OF THE NATIONAL URBAN LEAGUE AS WE CONTINUE TO ADVANCE POLICIES AND PROGRAMS TO EMPOWER AFRICAN-AMERICAN AND OTHER URBAN COMMUNITIES.**

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