Building Inclusive Tech Ecosystems:
Insights from the Tech Done Right Challenge

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(Preliminary summary report)

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I. Introduction

The technology industry is a 1.4 trillion industry and contributes to 10.4 million jobs to the United States economy, generating local and national wealth. However, underrepresented women and people of color are being left behind as a result of a complex set of structural and social/psychological barriers, or “leaks,” which occur across the leaky technology pipeline. In 2019, the Kapor Center launched the Tech Done Right (TDR) National Challenge, seeking to better understand how tech ecosystems are evolving across the country and identify organizations led by and/or primarily serving communities of color that are addressing systemic barriers and are emerging ecosystem support organizations.

The Tech Done Right Challenge was national in scope and sought to identify promising practices that stakeholders could utilize to scale across various ecosystems. The selection process was based on multiple criteria, including the project’s potential impact, the metrics proposed, and the diversity of the organization’s leadership and staff. The application format included video pitches, written application, letters of recommendation from other community organizations that were reviewed by a set of external evaluators who were a mix of practitioners, funders, and investors. From over 120 submissions, ten TDRC grant submissions were selected in eight cities across the United States. The TDR Challenge provided each of these organizations with $100,000 in unrestricted funding for one year. The recipients of the award can be found at: https://techdoneright.kaporcenter.org/winners/.

II. Highlights from 8 Tech Ecosystems

We conducted a comparative analysis of diversity across tech ecosystems utilizing hyperlocal US Census Data. By focusing on gender and ethnicity, the analysis will provide data that compares the diversity of the tech workforce across these ecosystems. Below are summaries of the overall technology workforce, the racial and gender diversity of the workforce, and VC funding across eight cities. To provide a clear and meaningful summary of an ecosystem’s success in supporting a diverse tech workforce, we developed a Disparity Ratio for the current report. The disparity ratio (Disparity Ratio, D) focuses on the concept of underutilization, emphasizing an availability of talent, resources, and expertise from which the broader ecosystem is not deriving full benefit. It is calculated based on three values of three shares for the target group: $D_w$ gender disparity in the tech workforce, $D_r$ racial disparity in the tech workforce, and $D_{fg}$ gender disparity in venture capital funding. An ecosystem reaches parity at 1.00, so that the closer an ecosystem’s score is to 1.00, the closer they are to racial and gender parity in participation of a diverse tech workforce.
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<th>Ecosystem</th>
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<th>Computer, Science and Engineering Workforce</th>
<th>Computer, Science, and Engineering Workforce (as % of overall)</th>
<th>Total VC funding 2015-19</th>
<th>Disparity Ratio</th>
</tr>
</thead>
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<tr>
<td>Albuquerque</td>
<td>651,000</td>
<td>24,000</td>
<td>3.69%</td>
<td>$118M</td>
<td>0.42</td>
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<td>Atlanta</td>
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<td>$6.7B</td>
<td>0.39</td>
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<td>Baltimore</td>
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<td>$3.2B</td>
<td>0.07</td>
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<td>Bronx</td>
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<td>0.91%</td>
<td>$13M</td>
<td>0.45</td>
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<tr>
<td>Kansas City</td>
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<td>$313M</td>
<td>0.36</td>
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<tr>
<td>Los Angeles</td>
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<td>$13B</td>
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<td>Oakland</td>
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<td>$3.9B</td>
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<tr>
<td>Washington DC</td>
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<td>43,200</td>
<td>6.43%</td>
<td>$18B</td>
<td>0.45</td>
</tr>
</tbody>
</table>

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1 The American Community Survey (ACS) Public Use Microdata Sample (PUMS) files are a set of untabulated records about individual people or housing units. The Census Bureau produces the PUMS files so that data users can create custom tables that are not available through pretabulated (or summary) ACS data products.

2 Categorized under PUMS Minor Occupation Group according to ACS. In utilizing this definition, we follow the guidelines set by the National Science Board. See National Science Board, Science and Engineering Indicators, Science and Engineering Labor Force. NSB-2019-8, September 26, 2019.

3 As reported to crunchbase.com.

4 The Disparity Ratio as here utilized is designed to provide a clear and meaningful summary of an ecosystem’s success in supporting a diverse tech workforce, as well as ensuring founders of color have equitable access to capital. To our knowledge, this is the first time tech ecosystems have been assessed and compared in this manner. Please note, the Disparity Ratio is calculated against a maximum score of 1.00, which denotes full racial and gender parity. The closer to 1.00, the more equitable the ecosystem.
Albuquerque, NM

Albuquerque is uniquely positioned to serve as a tech and innovation hub for a diverse population, which is 39% Latinx, 38% White, and 3% Asian. In particular, the city has catalytic potential for the local Native American community, who comprise 4% of the City of Albuquerque’s population and 10.5% of the State of New Mexico’s population. Prior to the COVID-19 pandemic, Albuquerque was an emerging innovation ecosystem, with a tech workforce of approximately 24,000 according to the latest US Census American Community Survey.5 Venture funding as reported to Crunchbase averaged less than $25M per year, with unusually high totals in 2015 of $48M, of which about half was due to a $25M Series D raise by Skorpios Technologies, which featured one female founder. Albuquerque’s tech workforce was about average, comprising 3.7% of the total population, just under the 4% average among the ecosystems surveyed.

Despite Albuquerque’s diverse population, the tech workforce was majority male and White (71% and 54% respectively). In comparison to the overall population, there was a marked underrepresentation of Latinx individuals in the tech industry (50% vs 26%). To achieve parity, Native American representation would need to increase from 1% to 4%, while the Black tech workforce is almost at parity with the overall population (2.8% vs 2%). Asians represent 2.5% of the population and 6% of the tech workforce. Participation of women in Albuquerque’s tech workforce was 25%, the lowest among the ecosystems surveyed compared to the city’s female population of 51%. Seven percent of the workforce is Latinx female and there was virtually no representation of Black or Native American women (0.38% and 0.25% respectively).

The overall funding deployed in Albuquerque’s startup ecosystem between 2015-19 was approximately $119M, an average of $23M per year. Of this total, $29M went to startups with at least one female founder (just under 25%). Funding for startups with at least one female founder was relatively high in 2015 but negligible subsequently. The spike in 2015 was due to a $25M Series D round for Skorpios Technologies, founded by Lisa Albrecht and Stephen Krasulick (86% of the total funding reported). BabyPage—founded by two female entrepreneurs—received two rounds of funding at $1M each, in 2016 and 2019.

Atlanta, GA

Unique among the ecosystems assessed by this report, over half of Atlanta’s population is Black; this makes it particularly suited to serve as a tech hub for a highly diverse population, which is 58% Black, 30% White, 5% Latinx, 3.5% Asian. Prior to the COVID-19 pandemic, Atlanta was growing into one of the key innovation ecosystems in the Southeast, with a tech workforce of approximately 20,000 according to the latest US Census American Community Survey.6 Venture funding as reported to Crunchbase averaged approximately $325M per year. However, funding to startups with at least one female founder averaged only 4.6% in the last

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5 Total population is approximately 651,000 for the selected PUMA Geography.
6 Total population is approximately 514,000 for the selected PUMA Geography.
five years. Atlanta’s tech workforce comprised 4.9% of the total population, just under the average of 4% across the ecosystems surveyed. Despite a majority Black population, prior to COVID-19 the tech workforce in Atlanta was majority male and White (68% and 56% respectively). In comparison to the overall population, there was a marked underrepresentation of Black individuals in the tech industry (58% vs 26%), while the Latinx tech workforce was almost at parity with the overall population (5.1% vs 5%). Asians were overrepresented, comprising 3.4% of the population and 11% of the tech workforce. Participation of women in Atlanta’s tech workforce was slightly above average at 32% but representation among women of color was quite low at 9.5% (Black women comprising 8.7% and Latinx women less than 1% of the tech workforce). Participation of Asian and White women was also fairly low, at only 4% and 17% of the tech workforce respectively.

The overall funding deployed in Atlanta’s startup ecosystem between 2015-19 was approximately $6.7B, an average of $1.3B per year. Of this total, only $326M went to startups with at least one female founder (just under 5%). With an annual range of $10 to $30M in funding, funding for startups with at least one female founder spiked in 2018 due to a Series A raise of $182.5M by Bakkt, co-founded by Kelly Loeffler and Jeff Sprecher. Otherwise, the total amount is just under the average among the ecosystems surveyed ($362M).  

**Baltimore, MD**

Baltimore has a somewhat diverse population, and, given its proximity to Washington D.C., a robust tech ecosystem with strong startup funding. In terms of demographics, the city is 63% Black, 18% White 12% Asian, and 5% Latinx, numbers partially reflected in the city’s tech workforce (61%, 11%, 23%, and 3% respectively). Prior to the COVID-19 pandemic—and including Columbia and Towson—the total tech workforce was approximately 40,800 according to the latest US Census American Community Survey. Venture funding was similarly high, as reported to Crunchbase, averaging $640M per year with a peak of $1.7B in 2018. Startup funding, however, was highly uneven, with only 6% of funding going to startups with at least one female founder.

The tech workforce comprised 7.4% of the total population, higher than the average of 7% across the ecosystems surveyed. As is the case with most ecosystems, the tech workforce in Baltimore was majority male and White (71% and 61% respectively). In comparison to the overall population, there was an underrepresentation of Black (17% vs 11%) and Latinx (5% vs 3%) individuals in the tech industry. Asians represent 12% of the population and 23% of the tech workforce. Participation of women in Baltimore’s tech workforce was fairly low at 29% (just below the overall average of 31%), compared to the city’s female population of 52%. Participation of women of color was only 4% (Black women comprising 3% and Latinx women

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7 Not included in our calculation are debt financing rounds by Kabbage, which amount to $2.5B over 16 rounds and culminated in their acquisition by American Express (announced 8/17/20). Kabbage was founded by Kathryn Petralia and Rob Frohwein.

8 Total population is approximately 553,000 for the selected PUMA Geography.
1% of the tech workforce). Participation of Asian and white women was also fairly low, with only 8% and 16% of the tech workforce identifying as female compared to averages of 5% and 14% respectively.

The overall funding deployed in Baltimore’s startup ecosystem between 2015-19 was approximately $3.1B, an average of $640M per year. Of this total, only $197M went to startups with at least one female founder (just over 6%). Funding for startups with at least one female founder peaked in 2015, with three late-round fundings over $20M: Bambeco, ZeroFOX, and Welldoc. Total funding was $442M, of which these three accounted for 20%. Two years later, startups with at least one female founder reached 36% of total funding in 2017, comprising $60M of a total $169M reported to Crunchbase. The majority of this funding ($40M) went to ZeroFOX for their Series C raise. The company was founded by Hillary Herlehy, James Foster, and Evan Blair. Funding for startups with at least one female founder has since consistently dropped to a low of $9M in 2019.

**Bronx, NY**

The Bronx presents a unique case. Adjacent to Manhattan, it has by far the lowest White population among the ecosystems surveyed: only 9.5% of the population is White. Overall, the borough is 53% female, 55% Latinx, 34% Black, 9% White, and 4% Asian. Prior to the COVID-19 pandemic, the Bronx had a fairly robust tech workforce, a total of 13,300 according to the latest US Census American Community Survey. Venture funding as reported to Crunchbase was also the lowest: an average of $3M per year, with only one transaction registered to a startup with at least one female founder.

The Bronx’s tech workforce comprised less than 1% of the total population, significantly under the average of 4% across the ecosystems surveyed. This is even more surprising given that it was the second largest ecosystem surveyed, with almost 1.5M people—far higher than the average 550,000 and over double the size of the next largest, Washington D.C. at 672,000 and Albuquerque at 651,000. The Bronx is the only ecosystem surveyed without a tech workforce that is majority male and White. Instead, the majority is Latinx (38%), followed by Black (26%) and White (23%). Asians comprise 8% of the tech workforce. Despite its high diversity numbers overall, however, the Bronx follows most other ecosystems surveyed, with White and Asian individuals overrepresented in the tech workforce in comparison to the overall population (9.5% vs 23%, 3.6% vs 8% respectively), while Black and Latinx are underrepresented (33% vs 26%, 55 vs 38% respectively). Participation of women in the Bronx’s tech workforce was about average, approximately 31%, while the city’s female population overall was 53%. Participation of women of color in the tech workforce follows the general trend within the ecosystem, with Black women comprising 10% of the total, Latinx women 6%, White women 5%, and Asian women 2%. The Bronx had the highest participation of Black women in the tech workforce, while it was surpassed only by Albuquerque in its percentage of Latinx women (7% vs 6% respectively). It also had the lowest percentage of participation of White women (5.4% against an average of 14%).

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9 Total population is approximately 1,460,000 for the selected PUMA Geography.
The overall funding deployed in the Bronx’s startup ecosystem between 2015-19 was approximately $13M, the lowest of those surveyed, with an average of $3.2M per year. Of this total, only $250,000 went to startups with at least one female founder (just under 2%). The extremely low number of venture funding deployed in the Bronx should be surprising, given the staggering $110B raised by startups in New York City, of which $30B went to startups with at least one female founder. Unlike other ecosystems adjacent to major funding centers (Oakland to Silicon Valley, Baltimore to Washington DC), there seems to be no permeability between the Bronx and New York City, concentrating capital almost absolutely in the latter while ignoring the former. The only funding reported by a startup with at least one female founder was a convertible note of $250k raised by The Glass Files in 2016 (incidentally, the only round registered that year in the Bronx).

Kansas City, Missouri

Kansas City has a fairly diverse population, with demographics indicating that the city’s general population (including both the Kansas and Missouri portions of the city) is 51% female, 49% White, 29% Black, and 3% Asian. Prior to the COVID-19 pandemic, Kansas City had the smallest tech workforce with the exception of the Bronx, a total of 16,600 according to the latest US Census American Community Survey. Venture funding as reported to Crunchbase was also low, an average of $63M by year that showed steady but significant growth between $12M in 2015 and $173M in 2019. This dramatic spike makes Kansas City the ecosystem with the strongest growth in venture capital funding (a 1,300% increase).

Kansas City’s tech workforce comprised less than 3% of the total population, just under the average of 4% across the ecosystems surveyed. As is the case with most ecosystems, the tech workforce in Kansas City was majority male and White (70% and 74% respectively). In comparison to the overall population, there was an underrepresentation of Black (29% vs 13%) and Latinx (15% vs 5%) individuals in the tech industry. Asians represented 2.8% of the population and 6% of the tech workforce. Participation of women in Kansas City’s tech workforce was about average, approximately 30%, while the city’s female population overall was 51%. Participation of women of color was only 7% (Black women comprising 5% and Latinx women 2% of the tech workforce). Participation of Asian and White women was higher than average, with 19% and 3% of the tech workforce identifying as female compared to averages of 5% and 14% respectively.

The overall funding deployed in Kansas City’s startup ecosystem between 2015-19 was approximately $313M, an average of $63M per year. Of this total, only 326M went to startups with at least one female founder (about 8.4%). Kansas City was the closest ecosystem to the average of 9.47%, though year-over-year it has remained largely steady while the overall funding has increased from $12M in 2015 to $137M in 2019. Funding for startups with at least one female founder was consistently low at an average of $5M per year from 2015-2019. While funding overall increased year-over-year, funding for startups with at least one female founder

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10 Total population is approximately 597,000 for the selected PUMA Geography.
was steady at around $4M with the exception of an increase to $7M in 2017 and 2018. The spike in 2017 was due to a $4M Series A round for Likarda, while 2018 saw five rounds between $900k and $2M, including a seed, crowdfunding, and debt raise by Mycroft of $1.75M, $395k, and $900k respectively. The same company followed this with an equity crowdfunding raise of $1M early in 2019.

Los Angeles, CA

Overall, Los Angeles’ demographics are 49% Latinx, 28% White, 12% Asian, and 9% Black. This makes it particularly suited to serve as a tech hub for this highly diverse population. For some years prior to COVID-19, Los Angeles had been growing in importance as a tech hub. Its proximity to Silicon Valley and highly diverse population promised a much more inclusive ecosystem than average, anchored by a tech workforce of approximately 94,600 according to the latest US Census American Community Survey. Venture funding as reported to Crunchbase was surprisingly low in 2015 and 2016, showing a dramatic spike in 2017 from $1.5B to $4.2B before settling at $3.2B per year in 2018 and 2019.

The tech workforce comprised 2.4% of the total population, among the lowest overall but not surprising given its population of almost 4M compared to the other ecosystems surveyed which, excluding the Bronx, average 550,000 in population. Despite a majority Latinx population, the tech workforce was largely male and White (70% and 42% respectively). In comparison to the overall population, there was a marked underrepresentation of Latinx (49% vs 17%) individuals in the tech industry. The Black tech workforce was also lower than the overall population (6% vs 9%). Asians represented 12% of the population and 25% of the tech workforce. Despite a low rate of participation in the tech workforce compared to their share of the overall population, Los Angeles’ tech workforce did have a higher-than-average percentage of Latinx individuals, one of the highest among the ecosystems we reviewed: 17%. The city’s total population was 51% female, also about average. Participation of women in Los Angeles’ tech workforce was about average at 30% (just below the overall average of 31%). Participation by women of color in Los Angeles’ tech ecosystem was roughly equal to the average among the ecosystems surveyed. Latinx women comprised 4.40% of the tech workforce against an average of 3.51%, while Black women were quite underrepresented, comprising only 2.15% of the workforce against an average of 5.04%.

The overall funding deployed in Los Angeles’ startup ecosystem between 2015-19 was approximately $13B, an average of $2.6B per year. Of this total, $1.5B went to startups with at least one female founder, about 12% of the total and the highest in dollar amount among the ecosystems surveyed. Funding for startups with at least one female founder peaked in 2017 and dropped in 2018 and 2019. It was a significant spike, from $1.2B to $3.7B before settling at $3.2B in 2018 and 2019. The one notable outlier in the Los Angeles ecosystem was a $260M

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11 Total population was approximately 3.95M for the selected PUMA Geography of the City of Los Angeles.
12 We did not include annual debt raises by Hana Financial totaling $450M or a $350M debt raise by Annapurna Pictures.
raise by DAQRI from Tarsadia Investments, a private equity firm. DAQRI was founded by Brian Mullins and Gaia Dempsey.

Oakland, CA

Oakland was among the most demographically-balanced ecosystems surveyed in this report, composed of a population that was 51% female, 29% White, 23% Black, 17% Latinx, and 16% Asian. In addition, 6% of the population identified as two or more ethnicities.

Oakland’s tech workforce numbered approximately 20,500 individuals according to the latest US Census American Community Survey. Venture funding as reported to Crunchbase was quite high, given its proximity to Silicon Valley, averaging almost $800M per year. As expected, participation in the tech workforce by women was higher than average (33%), as was funding to startups with at least one female founder (13%). The tech workforce comprised 4.7% of the total population, among the highest of the ecosystems surveyed. As with the majority of the ecosystems surveyed, Oakland’s tech workforce was majority male and White (67% and 57% respectively). In comparison to the overall population, there was a high divergence in the representation of Black (23% vs 8%) and Latinx (17% vs 10%) individuals in the tech industry. Asians represented 16% of the population and 21% of the tech workforce. Oakland included higher than average participation of women in the tech workforce, at 33%. The city’s total population was 51% female, about average among the ecosystems surveyed. Surprisingly for a city with Oakland’s diversity, the participation of women of color in the tech ecosystem was only 6% (Black women comprising 2% and Latinx women 4% of the tech workforce). Participation of Asian and White women was also fairly low as well, with only 15% and 8% of the tech workforce identifying as female compared to averages of 5% and 14% respectively among the ecosystems surveyed.

The overall funding deployed in Oakland’s startup ecosystem between 2015-19 was just under $4B, an average of $784M per year. Of this total, only $452M went to startups with at least one female founder (11.55%). Funding for startups with at least one female founder averaged 13% in this period, peaking at 27% ($223M) in 2019. This was driven by five late-stage raises over $20M, including LaunchDarkly (Series C $44M), TerViva (Series D $20M), Hound Labs (Series D $30M), and Solaria ($40M). By contrast, 2016 and 2017 saw only minimal funding going to startups with at least one female founder (2% and 5% respectively). Overall, these startups raised $900M dollars from 2015-19 out of a total $3.9B.

Washington D.C.

Washington D.C.’s demographics were highly diverse, with a majority Black population (48%) followed by White (36%), Latinx (11%), and Asian (4%). Approximately 3% of the population identifies as Two or More Races. As the nation’s capital, it also has a unique position, serving as a temporary residence to scores of elected officials and their staff. Prior to the COVID-19

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13 Total population is approximately 437,000 for the selected PUMA Geography.
pandemic, Washington D.C. was the second largest tech ecosystem surveyed for this study, with a tech workforce of approximately 43,200 according to the latest US Census American Community Survey.\textsuperscript{14} Venture funding as reported to Crunchbase was the highest, at almost $19B in total funding from 2015-2019.

The tech workforce comprised 6.4% of the total population, the second highest among the ecosystems surveyed. Despite Washington D.C.’s diverse population, the tech workforce remained majority male and White (61% and 59% respectively). In comparison to the overall population, there was a marked underrepresentation of Black individuals in the tech industry (48% vs 22%). Even with this underrepresentation, however, it was still the third highest among the ecosystems surveyed, following the Bronx and Atlanta (both at approximately 26%). Latinx representation was close to parity at 11% of the population and 9% of the tech workforce. Asians represented 4% of the population and 7% of the tech workforce. Washington D.C. included the highest percentage of women in the tech workforce, at 39%. Its total population was 53% female, also among the highest across the ecosystems surveyed. Participation of White women in the tech workforce was the highest, at 21% of the total. The same was the case for Black women, who comprised 9% of the total (second only to the Bronx). Latinx women were just under the average among the ecosystems surveyed, at 3.1% against an average of 3.5%.

The overall funding deployed in Washington D.C.’s startup ecosystem between 2015-19 was almost $19B, considerably more than the second highest (Los Angeles at $13B), with an average of $3.8B in venture funding per year. Of this total, $1.2B went to startups with at least one female founder (6.4%). In amount of funding and share of funding, Washington D.C. was less than Los Angeles at $1.6B (11.5%). Funding for startups with at least one female founder was lower than average at 6.4% against an average of 9.5%. Despite having the highest total startup funding among the ecosystems surveyed, at almost $19B from 2015-2019, it was second in total amount of funding to startups with at least one female founder ($1.2B) and fifth by percentage. Alarmingly, the percentage of funding has fluctuated wildly, while dropping continually year-over-year.

\textsuperscript{14} Total population was approximately 672,000 for the selected PUMA Geography.
III. Case Studies from Ecosystem Building Organizations

Overview of the Tech Ecosystem Building Organizations

The Tech Done Right Challenge aimed to galvanize cross sector collaborations in cities across the U.S. to build diverse and inclusive tech ecosystems. A key criteria of the challenge is to find solutions that embrace innovation through prototypes, experimentation, and iteration through public and private collaborations. The Challenge asked organizations to answer: What is your innovative solution to build a diverse and thriving inclusive tech ecosystem in your community?

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<th>Grantee Organization</th>
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<th>Project</th>
<th>Delivery Method</th>
<th>Leaky Tech Pipeline Addressed:</th>
</tr>
</thead>
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<td>Baltimore Corps</td>
<td>Baltimore, MD</td>
<td>Web app to connect tech talent to employers in Baltimore</td>
<td>Virtual programming + beta web app</td>
<td>Tech Workforce</td>
</tr>
<tr>
<td>Bixel Exchange</td>
<td>LA, CA</td>
<td>Online platform to connect tech talent to employers, assess soft skills readiness for applicants, and track talent placement in Los Angeles</td>
<td>Virtual programming + beta online platform</td>
<td>Post-Secondary, Tech Workforce</td>
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<td>Block Knowledge</td>
<td>Kansas City, MO</td>
<td>Tech training &amp; startup studio in Kansas City</td>
<td>Virtual training</td>
<td>Tech Workforce, Entrepreneurship &amp; VC</td>
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<td>Byte Back</td>
<td>Washington DC</td>
<td>Tech training and employer engagement for low-income job seekers in Washington D.C.</td>
<td>Virtual training</td>
<td>Post-Secondary, Tech Workforce</td>
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<td>Data EdX</td>
<td>Atlanta, Georgia/ Houston, TX</td>
<td>Tech training in data science for Black womyn professionals in Houston and Atlanta</td>
<td>Virtual training &amp; meetups</td>
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<td>Generation Titans</td>
<td>Albuquerque, NM</td>
<td>Austin, TX</td>
<td>National</td>
<td>Online platform for entrepreneurs of color to close the capital gap and meet emergency needs through a supercharged “friends and family” launching in Albuquerque, and Austin</td>
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<td>Goodie Nation</td>
<td>Atlanta, Georgia</td>
<td>Accelerator connecting startups to corporate partners in Atlanta</td>
<td>Virtual programming</td>
<td>Entrepreneurship &amp; VC</td>
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<tr>
<td>HBCUvc</td>
<td>LA, CA and national</td>
<td>VC training clinic model for black and latinx college students launched across five cities</td>
<td>Virtual programming</td>
<td>Post-Secondary, Venture Capital</td>
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<tr>
<td>Oakland Codes</td>
<td>Oakland, CA</td>
<td>Agency model to connect alumni to tech contract work in Oakland</td>
<td>Beta virtual programming</td>
<td>Post-Secondary Education</td>
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<tr>
<td>The Knowledge House</td>
<td>Bronx, NY</td>
<td>Online platform to connect tech talent to employers, resume build, and track talent placement in New York City</td>
<td>Virtual programming + beta online platform</td>
<td>Post-Secondary, Tech Workforce</td>
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**Baltimore Corps**

Baltimore Corps’ proposed project for Tech Done Right was designed to address the perceived lack of women and applicants of color to tech positions. Though there is a pipeline of women and people of color with the skills to be hired for tech positions, their resumes are often passed over because they do not come with internal referrals or do not conform to the hiring individual’s expectations.

Baltimore Corps built a platform to amplify recruitment and application rates among underrepresented individuals, focusing on improving the user experience to capture data otherwise not communicated to potential employers. By providing a common framework to communicate both hard and soft skills, the platform connects tech employers with underrepresented individuals at a deeper level and reduces the impact of implicit bias. Their focus is equity-based recruitment and placement in tech, which requires extensive user experience testing with their target audience. They focused to understand the actual demand for tech roles in Baltimore, then address the barriers keeping people of color from those roles.

Baltimore Corps believes funding has to be distributed across the leaky tech pipeline, with prioritizing basics like the digital divide is leaving people behind now, more than ever.

**Bixel Exchange**

Bixel Exchange’s proposed project for Tech Done Right focused on scaling their assessment, matching, and mentoring platform to serve 10x more participants, and facilitate their participation in work-based learning opportunities with employer partners. In Los Angeles, 4 out of 5 tech employees are hired based on internal recommendations. This creates barriers for participants of color, particularly from community colleges, who don’t have access to the professional networks that generate these internal recommendations. Bixel Exchange’s solution
is to enable students of color to build these networks by facilitating work-based learning opportunities at tech companies, through which they can establish the relationships necessary to lower their barriers to entry and establish their credentials with local tech companies.

Bixel Exchange has partnered with Guided Compass and Cornerstone OnDemand to scale their matching platform, which assesses students for soft and hard skills, tests for their aptitude for different tech career pathways, and showcases their portfolios to potential employers. To date, the platform has generated 300+ matches with 220 students and 60 employers. Moving forward, Bixel Exchange believes that economic uplift for people of color needs to address more than one area of opportunity at a time, particularly workforce development, which goes hand-in-hand with entrepreneurship.

Moving forward, Bixel Exchange believes that ecosystem building needs coordination, planning, and strategy. It needs intentionality and funding. It also relies on ecosystem builders given the space and the ability to connect programs so that each can deliver on its value.

Block Knowledge

Block Knowledge functions as a startup venture studio that combines training for startup founders, product development, CTO matching, and job placement for program graduates. Block Knowledge’s proposed project for Tech Done Right was designed to facilitate rapid prototyping, product design, and business validation for individuals interested in launching a startup or entering the tech workforce. Individuals of color often lack the safe and supportive environment to test their ideas and hone their product development skills; this increases the risks of entrepreneurship and bolsters systemic barriers keeping founders of color from starting their own businesses. It is necessary to create these learning spaces for founders of color while fostering connections with their prospective audiences, facilitating the customer acquisition process and building traction into the product development process.

Block Knowledge aims to be, primarily, a hub for connections. Karatu is a platform that teaches startup founders the key skills for business validation, product development, UI/UX design skills, and app development. This enables participants to gain real-world skills applicable both to launching their startup or entering the tech workforce. The platform’s key aspect is the ability to meet participants at their level and guide them through standardized pathways that result in either entrepreneurial opportunities or placement into tech positions within Kansas City’s ecosystem.

Block Knowledge believes that one of the biggest priorities to rebuild the ecosystem is to facilitate nationwide partnerships in order to cultivate collaboration and sharing of resources. In order to effectively rebuild the entrepreneurial ecosystem, communities need to be able to cross-collaborate and share best practices in order to impact the largest number of entrepreneurs and change the system entirely.
ByteBack

Byte Back’s proposed project for Tech Done Right was focused on scaling their program delivery and impact through stakeholder convening, network building, and a collective impact approach to the skills gap in Washington D.C. Often overlooked, the digital divide remains a critical barrier for many individuals of color, and on-ramps into high-growth careers in tech must have multiple entry points that accommodate various levels of digital fluency. This effort can only be successful if coordinated across the ecosystem, so that resources are efficiently distributed at various key points to address the needs of all individuals.

Given Byte Back’s focus on digital literacy and foundational tech skills, it is critical that they work with partners across the tech pipeline to enable their participants to enter pathways from multiple starting points. As the initial step into the pipeline, Byte Back required visibility into its entirety to ensure it trains participants to meet employer needs. By coordinating across the ecosystem, they are able to leverage the strengths of other programs to ensure a smooth transition for their participants while building a long-term pipeline of skilled candidates able to meet future needs of employers.

The pandemic worsened the challenges their participants experienced daily. With over 35% of their participants without access to a computer or broadband internet at home, they drove in DC distributing 63 laptops and hotspots. With 95% Black and Brown participants, primarily from low-income communities with many not having college degrees, they helped participants test into industry certifications so that they can move into living-wage careers. Byte Back re-opened their center to offer a dedicated certification testing in a safe environment. Within the first five months of the pandemic they helped 100 people into tech training and on a path into the digital economy.

Moving forward, Byte Back sees a critical need for more cross sector partnerships to scale work. More specifically, they want to see their city government take an organizing and funding role.

DataEdX

DataedX’s proposed project for Tech Done Right was designed to address the low participation of Black women in data science with an initial focus on Houston and Atlanta. This is particularly important at this moment, when data scientists are just beginning to write algorithms that meaningfully leverage the massive amounts of data that have been available in the last few years. These algorithms will have a significant effect on every aspect of our lives, and they must be written by data scientists from a diversity of backgrounds, places, and perspectives.

The program consisted of 58 Black women who met regularly to work through a varied curriculum. Besides making resources available to each other, the program allowed each participant to troubleshoot their own path into data science, providing a safe space for connection and support as they embarked on their careers.
DataEdX advocates for a more culturally relevant curriculum as well as continued support for networks who serve as conveners with more intention and funding.

Generation Titans

Generation Titans’ proposed project for Tech Done Right was designed to address the lack of access to early-stage capital for entrepreneurs of color. Traditionally known as the ‘Friends and Family Round,’ this critical stage enables startup founders to dedicate their time to developing their idea, generating the prototype through which to validate their vision. During this time, entrepreneurs often do not work full time, and therefore lack access to steady income. This lack of access has been tied to generational poverty, and in turn significantly increases the risks for these entrepreneurs.

Reunion is an online crowdfunding platform that clusters a group of entrepreneurs by common themes, identities, industries, and impact areas. It is designed to help craft and amplify the stories of Black, Latinx, and Indigenous entrepreneurs, and, in this manner, to serve as a friends and family round for those without ready access to social capital or generational wealth. REUNION piloted three clusters (Indigenous Futures in Albuquerque, Health & Wellness in Texas, and a national cohort focused on Inclusive Tech) with plans to expand nationally. They aspire to be an engine of highly vetted entrepreneurs who are ready for that next step with $10k, $20k, $30k in their pocket as a result of our work to help them be ready for investment. Of their next stage of growth. Over 200 people signed up to support founders on the platform with nearly $30,000 raised.

Generation Titans believes that it’s critical that ecosystem’s funding and resource distribution are mapped to the different commitments from institutions for more transparency and democratization of funding.

Goodie Nation

Goodie Nation’s proposed project for Tech Done Right is focused on connecting startup founders of color to influencers and corporate partners with whom they might undertake a paid pilot project. Gaining traction—and the first enterprise client—is a critical moment in a startup’s journey, when the company is validated by a Fortune 500 partner while building networks and generating revenue. While most Fortune 500 corporations are actively seeking to procure goods and services from local, minority-owned enterprises, the latter often do not have the resources to undertake a long and complex procurement process. By lowering the stakes into a pilot project while still involving key supporters within the corporation, Goodie Nation is able to make use of their own social capital to establish the startup’s bona fides and eliminate costly procurement processes.

Having launched in September 2019 as their TDR project, Goodie Nation has been delivering an intensive curriculum to their portfolio companies that range from readiness evaluations to
weekly standups, peer accountability sessions, monthly one-on-ones, and office hours with mentors, advisors, and coaches. To date, Goodie Nation has 90 founders in their pipeline and a network of 300 influencers and mentors, with whom they've facilitated 15 paid pilot projects which have resulted in $3M in funding to their portfolio companies.

Tech has permeated every part of business no matter how small. This is why moving forward, Goodie Nation advocates to support all businesses as tech-enabled, and provide them resources to stay afloat, to grow, to get capital. In addition, Fortune 500 corporations need to prioritize paid pilots with startups and small businesses led by people of color. Goodie Nation is showing corporations how they receive great benefits directly while investing in their own future by supporting diverse pipelines into tech.

HBCU.vc

HBCUvcs's proposed project for Tech Done Right was designed to reach, train, and support a network of investors of color (Black, Indigenous, Latinx). The program looks at strategies to close the wealth gap for people of color, and focuses on increasing access to capital by supporting people of color in deploying capital within their own communities, rather than relying on the traditional demographics of venture capital, given that White males comprise the majority of the workforce at venture capital firms today (55% male and 76% White according to the latest NVCA and Deloitte report). By diversifying the pool of investors, HBCUvc seeks to diversify the pool of companies from which they source deals, and in so doing distribute venture funding to traditionally-overlooked communities. HBCU.vc believes that if you have capital creating wealth across thousands of communities, then you have a multiplier effect, not a redistributive one. HBVC.vc is combating wealth inequality, generational poverty, and systemic racism by holding their ecosystems responsible for the flows of capital - making it critical that people who deploy capital don’t come from the same small group that receives the capital.

HBCU.vc shared that while they train a limited number of individuals at a time, and though they can track the effect of their micro-investments through the life of the program, they can’t draw a direct correlation to their impact until they’ve joined a firm or raised a fund, deployed that capital, and then measured the outcomes quantitatively over the average lifespan of an investment (10 years to an exit). However, Black Lives Matter movement saw an increase in investment firms' desire to quickly diversify their staff and portfolios. HBCU.vc’s strong networks of talent in the communities enabled them to immediately respond to the needs of these firms and make connections for them. HBCUvc was successful in the expansion of their TDR project to include a $1M fund where our program participants can continue to learn about venture capital through direct experience, while entrepreneurs in our communities are receiving funding and support from trusted partners. This means that they now have investors (our program trainees) with a mandate to source deals through their HBCU networks, to be in their communities looking at their own startup and entrepreneurship ecosystems, rather than moving to Silicon Valley to chase after the same deals.

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Oakland Codes

Oakland Codes’ initial proposed project for Tech Done Right was focused on solving key employer pain points by collecting, collating, and reporting on their Diversity & Inclusion metrics, including employee volunteering and engagement. After several iterations, the Oakland Codes team decided that the project required staff support with backgrounds in Technology and APIs, which was beyond their current partnership. The team decided to prototype several experiments to help them move toward a talent agency model, targeting their program alumni. This model focuses on connecting their alumni to work opportunities that generate revenue immediately while allowing them to get real-world experience.

By serving as a clearinghouse for project-based work, Oakland Codes will provide the support required for alumni to deliver successfully on their projects, providing them resources, assistance, and services as needed to enable their transition. In addition, by training them in project management, alumni are given valuable skills to succeed both as independent contractors, entrepreneurs, and also in the workforce. They also want to assess recruiter demographics given recruiters are an important aspect to tech talent entry into the workforce. They’re the ones that build relationships with talent, cultivate those relationships, and vet the candidates that they pass on to their companies.

Oakland Codes ultimately want the talent to gain the skills to not only enter and persevere in tech but to also start their own companies so that they can contribute back to the positive changes in their local economy. Every investment in growing their population’s skill base is broadening the pool of potential entrepreneurs, and for each entrepreneur who launches their company we see new jobs created, jobs that didn’t exist before. There is a need to keep the process moving forward so that the effects can start to trickle down into the community, and grow exponentially from there.

Moving forward Oakland Codes want to build healthy communities where access to tech skills is not based on race, gender, or pedigree. They see a need for a holistic approach of multiple organizations collaborating and working in tandem to attack the problem at every access point and see greater representation throughout tech companies across all roles. Communication across ecosystems, among ecosystem builders, is necessary in order to enable collaborative learning that has an impact throughout the US.

The Knowledge House

The Knowledge House’s proposed project for Tech Done Right was designed to facilitate pathways for students and jobseekers of color to enter high-growth tech positions. Though these students have the skills to be hired for these positions, without experience or a degree from certain universities, they are commonly passed over for interviews. Then employers ascribe the lack of diversity in the tech workforce to a lack of qualified candidates, which is not the case.
The Knowledge House built a platform centered on a suite of career management tools. In particular, they built a smart resume platform that allows students to codify their learning experiences, showcase a portfolio of work, and create alignment between their learning and hiring needs. Having to move programming online has been a challenge, especially when much of the value of our programs was from one-on-one interactions with our students. Moving everything online in a way that still serves our community has been complex and expensive. Plus there’s a host of other things they need to consider, especially around mental health. To make this successful, The Knowledge House brings in a mental health component. Their platform helped NYC Mayor’s office host 1,000 interns as they moved forward with a pilot program during the pandemic.

Moving forward, The Knowledge House asks the public sector and funders to lead in aligning the various service providers from K-12 and into their careers, so that programs can focus on delivering what they do best while allowing data transparency that proves whether they’re successful or not. A cohesive way to allocate or organize it for the benefit of the participants is needed.
IV. COVID-19’s Impact and Opportunities for Rebuilding

When the COVID-19 pandemic first began its dramatic spike in early March 2020—shutting down the economy shortly thereafter—the TDRC partner organizations found funding sources disappeared, budgets were re-prioritized and re-aligned, and goals shifted to deal with the devastating effects of the pandemic. We surveyed the organizations to gather and collect insights and determine how best to mobilize resources to assist in the short and long term. We identified three primary aspects: loss of funding, loss and shift of internal capacity, and loss of program delivery infrastructure.

Loss of Funding

The loss of funding has been significant and future funding is uncertain. Overall, the aggregate organizational budgets were cut by an average of 10% in March, approximately $1.5M in funding. One organization lost 75% of their total operating budget, three organizations lost between 12-30%, and only four grant partners have not yet lost their operating budget. Two grant partners are facing shutdowns within the next three months without an emergency capital infusion. Due to systemic barriers in fundraising capacity and the COVID-19 emergency, none of the TDR grant partners have enough cash flow beyond three months (on average, their fundraising is 2-3 months ahead of their operational costs).

*We lost 75 % of our budget from either corporate clients canceling contracts, backing out of development/design work from our students, or freezing funding. Some funding is tied up in Universities which is making it hard to release.*

---TDR Grant Partner

Loss and Shift of Internal Capacity.

Due to the virtual freeze on philanthropic and other funding sources in the area of inclusive tech ecosystems, every TDR grantee expects a significant hit to their internal capacity within 3-6 months. As budgets dry up, the risk of staff lay-offs is high, programs will be shuttered, and each ecosystem will lose organizations providing critical services to talent and startups during a crisis. One organization serving entrepreneurs has already seen 13 out of 68 launched businesses close down. Moreover, organizational leaders deployed emergency funding and resources directly to program participants and their families to cover basic needs such as food, rent, and utilities. As the rate of unemployment continues to rise due to employer lay-offs, program participants who were already economically vulnerable have shifted into survival mode, prompting our TDR grant partners to also shift their priorities.

Loss of Program Delivery Structure.

TDR grant partners are tech and entrepreneurship skills builders who have built trust with the local community through in-person, high touch entry points which enable more equitable access to the most vulnerable. However, that level of engagement has been severely impacted, making
it necessary to re-strategize their in-person programming. TDR grant partners shared that the digital divide barriers they worked to resolve are exacerbated by stay-at-home policies that require digital hardware and literacy skills. Although every TDR grant partner has transitioned aspects of their in-person program to online content as much as possible, those whom they serve already existed at the margins of the digital divide and now risked complete disconnection. One grant partner has seen a 10% reduction in participation, several other grant partners have seen a 30-40% drop, and the remaining grant partners have not yet seen the extent of the damage but expect significant changes. Ultimately, the systemic issues that underlie the digital divide will be exacerbated in an unprecedented manner. They create massive problems for the vulnerable who, without access to the internet, will no longer have access to the critical resources delivered by TDR grant partners.

*Individuals will not be able to receive training in technology, especially those individuals with beginner computer skills. 31% of our students don't have access to a computer and internet at home, so providing virtual training is very resource-intensive and not always possible for people in underserved communities.*

--TDR Grant Partner
V. Recommendations to increase access and opportunity for people of color

In this section, we highlight common themes and recommendations of particular importance for policymakers and funders. These have been organized into a series of recommendations as advanced by TDR’s ecosystem builders, which we believe have implications at multiple levels. They are particularly important, however, for policymakers seeking to increase access and opportunity for people of color. Organized into three primary themes—coordination, network, and funding—we present them below.

Cooperation

Ecosystem building is a complex undertaking that requires close collaboration among key stakeholders. We believe that local government and funders must be among these key stakeholders, to ensure that the impact contributed by each organization on the ground also benefits the entirety of the ecosystem. Without a robust pipeline, the success of one organization will be limited and the ecosystem will not derive the full potential of that success.

- There needs to be a lead entity aligning service providers along the tech pipeline, from K-12 through career and entrepreneurship opportunities. For some ecosystems this is an important role for local governments to step in.
- Local government should be compiling and making available targeted, actionable, and updated ecosystem data.
- Local government should play an active role in supporting convenings of key stakeholders regularly and efficiently, with a special focus on funders.
- Funders should be encouraged to allocate and distribute funding in alignment with the ecosystem’s gaps and priorities.
- Nontraditional funders, such as Fortune 500 corporations, should be approached with opportunities to engage their ecosystem and increase diversity, from work-based learning opportunities to paid pilots with startups.
- Pathway mapping across a network of service providers by skill area and skill level are needed to ensure pathways across ecosystems are better sequenced and better coordinated. This also enables service providers to identify how complementary they can be as ecosystem stakeholders instead of being duplicative.

Network

Ecosystem builders require a common space in which to build capacity, share resources, and enable opportunities for their organizations to grow at scale. This network must extend across ecosystems, to minimize competition for local resources while maximizing each organization’s reach; solutions successfully piloted in Los Angeles might not have the same impact in Oakland,
but giving the latter a low-risk, low-cost means to test this solution without having to build it from scratch is incredibly valuable. Multiply this by ten projects and ten organizations, and you have a larger sample size from which to cross compare data and compare intervention effectiveness for scaling.

- Ecosystem builders across the nation should be regularly convened, and given the opportunity to come together, collaborate, share resources, and co-create solutions.
- Funding should be allocated to build and maintain this national network of ecosystem builders.
- Funding should be allocated to publish lessons learned from this national network, and publications should be readily available.
- A central focus for these publications should be the scope, outcomes, and data resulting from pilot projects, shifting the focus from reporting success to openly discussing the lessons learned including challenges and shortfalls.

**Funding**

Finally, we wish to acknowledge the important role funders play in shaping an ecosystem, unwittingly or unwittingly. When funding becomes concentrated in one section of the tech pipeline to the detriment of the others, the entire ecosystem suffers. After all, a strong tech workforce fuels a thriving startup ecosystem, both of which depend on a solid STEM educational foundation. Yet without the latter, it is difficult to build a strong tech workforce, and without this workforce startups will migrate to other tech hubs where talent and capital will then accumulate, draining some ecosystems while enriching a privileged few.

- Funders need to pay attention to diversity within the organizations they support, ensuring that leaders of color are receiving funding to advance their organization’s mission.
- Funders need to be willing to undertake some risk in their investments and support experiments, pilots, and unconventional opportunities that might generate important results and result in paradigm shifts within the social impact sector.
- Funders need to look beyond their own priorities and work together with other stakeholders to ensure that the impact of their investment elevates the entire ecosystem.
- Funders can incentive best practices by their own due diligence. This entails evaluating service providers for best practices around racial inclusion such as inclusive assessment of talent, culturally competent curriculum offerings, affordable cost of participation, and impact data aggregated by demographics.

We hope these insights will support the work and expansion of ecosystem-building organizations serving communities of color across the United States and aiming to increase diversity in the technology ecosystem.
VI. APPENDIX

Disparity Ratio Methodology: The report authors calculate the Disparity Ratio, D, based on three values of three shares for the target group: $D_{wg}$, gender disparity in the tech workforce, $D_{wr}$, racial disparity in the tech workforce, and $D_{ig}$, gender disparity in venture capital funding. The first two shares are utilization share, $U_{rw}$, and availability share, $A_{rw}$, in the tech workforce, which we calculate twice: once for gender, and once for race. As applied to the current study, the utilization share for race calculates $U_{rw}$, the total number of Black, Latinx, and Native Americans reported as employed in Computer Occupations within each ecosystem, divided by $U_{lw}$, the total number of individuals reported as employed in Computer, Science, and Engineering Occupations within each ecosystem. This is then divided by $A_{rw}$, the workforce availability share, which we calculate as $A_{rw}$, the total number of Black, Latinx, and Native American individuals within the ecosystem, divided by $A_{lw}$, the total population within the ecosystem. Thus,

Racial disparity in the workforce $D_{rw} = U_{rw} / A_{rw}$ where
$U_{rw}$ or utilization $= (U_{rw} / U_{lw})$ and
$A_{rw}$ or availability $= (A_{rw} / A_{lw})$.

We follow the same framework to calculate the Gender Disparity, $D_{gw}$, where $U_{gw}$, the utilization share for gender calculates $U_{lw}$, the total number of women reported as employed in Computer Occupations within each ecosystem, divided by $U_{lw}$, the total number of individuals reported as employed in Computer Occupations within each ecosystem. This is then divided by $A_{gw}$, the workforce availability share, which we calculate as $A_{gw}$, the total number of women within the ecosystem, divided by $A_{lw}$, the total population within the ecosystem. Thus,

Gender disparity in the workforce $D_{gw} = U_{lw} / A_{lw}$ where
$U_{gw}$ or utilization $= (U_{lw} / U_{lw})$ and
$A_{gw}$ or availability $= (A_{gw} / A_{lw})$.

We perform one final calculation for $D_{gf}$, the share of funding to startups with at least one female founder, which is $U_{wh}$, the total dollar amount invested in startups with at least one female founder within the ecosystem, divided by $U_{lf}$, the total dollar amount invested in startups within the ecosystem. Thus,

Gender disparity in startup funding $D_{gf} = U_{w} / U_{lf}$

The Disparity Ratio for the entirety of the ecosystem we calculate as the average of the three Disparity Ratios, where

$D = D_{rw} + D_{gw} + D_{gf} / 3$

The score reflects the extent to which women and people of color participate in each targeted facet of the ecosystem, including both the tech workforce as well as venture funding to tech
startups. As with the report by the National Academy, an ecosystem reaches parity at 1.00, so that the closer an ecosystem's score is to 1.00, the closer they are to parity.
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