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An analysis of tech workforce
and entrepreneurship

STATE OF THE PHILADELPHIA TECH ECONOMY

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WELCOME

So infamous it's local cliche, a billboard went up in January 1970 along the Schuylkill Expressway that read: "Philadelphia isn't as bad as Philadelphians say it is."

Installed by a civic group to reflect the legendarily sour mood of Philadelphians, more recently the jab has become an inside joke. The posh Fitler Club has a scale model of the billboard. Hardly any local panel discussion passes without someone mentioning the line. When then-President Trump said during his debate with now President Biden that "bad things happen in Philadelphia," you could buy T-shirts with the phrase printed on them within the hour.

Yet something funny was happening by early 2020: Philadelphians had nice things to say about Philadelphia. The city's population was growing, per the US Census; unemployment was historically low, including for Black and Hispanic residents; and the cultural offerings were rich and varied. Tech workers took transit and bicycles to Center City tech startup HQs, coworking spaces and renovated corporate offices. The city got its long-awaited, homegrown consumer-tech unicorn in GoPuff. Our stature was credibly expanding.

Then the COVID-19 pandemic hit: Lockdowns crushed vibrancy, racial justice protests exposed fault lines and politics crushed trust. That's without acknowledging the thousands of lives lost due to the infection.

Tech founders cut office leases, and meetups and coworking spaces closed. Crime surged, faith in institutions plummeted and net migration reversed. The pandemic years of 2020-2022 were brutal, if clarifying.

In 2023, something resembling our new normal emerged. A pandemic entrepreneurship boom continues, led by women and people of color. Quietly, though, nearly all growth-stage tech companies in the region shed employees, after rising interest rates shifted their focus toward capital efficiency. Big employers in the region laid off tech workers in large numbers for the first time since the Great Recession.

If software building slowed, then the region's long-celebrated life sciences strength triumphed. The region was named a finalist for a federal Economic Development Administration Tech Hub distinction for precision medicine, and University of Pennsylvania researchers Katalin Karikó and Drew Weissman won the Nobel Prize in medicine for their contribution to the mRNA COVID-19 vaccines.

This inaugural State of the Philadelphia Tech Economy is published by Technical.ly, the news organization that will celebrate 15 years reporting on Philadelphia's tech economy in 2024. Across our analysis, you'll find five broad categories that Technical.ly identifies as contributing to a tech economy: Invention (Research), Commercialization (Business Formation); Development (Workforce); Livability (Quality of Life) and Reputation — or what locals and outsiders think about this place.

For this report, like our own reporting, we at Technical.ly spent considerable time with word choice. This is a report on Philadelphia's tech economy, which encompasses both the tech industry and all tech work. These concepts overlap but are not the same.

A 150-person tech firm will likely employ professionals in sales and marketing, operations, and accounting — jobs within the tech industry but not tech occupations. Inversely, a 150,000-person telecom company will employ hundreds of software developers, data scientists and cybersecurity professionals — tech occupations not within the tech industry.

Over the next dozens of pages, Technical.ly presents a way to understand Philadelphia's tech economy. We share data, highlight people and collect important trends. But in the spirit of directness, we can also answer here: What is the state of the Philadelphia tech economy? Philadelphia is a lumbering giant, one of the country's biggest cities in the midst of one of the world's most economically important regions, but routinely underperforming relative to that size.

Our research, entrepreneurial and tech communities are world-class, aided by true cultural amenities and high quality of life but perennially contrasted with racial segregation and income stratification. A city that prizes its authenticity must champion the new — effectively exemplified by its high immigrant population — while holding true to what defines it.

Nobody can boo a Philadelphia hero except us.

As a final point, late into the development of this report, versions of which we are producing in each of the five mid-Atlantic markets Technical.ly covers, we identified that these reports might well serve also as a check in on Technical.ly as an organization and a community actor, too.

News organizations historically pretend to be invisibly neutral actors, which was likely never true and is certainly not true today. So though the focus throughout the report is on Philadelphia, you'll also see that we see ourselves as responsible for the direction of this tech economy as much as any other organization.

More than ever after the pandemic, Technical.ly is in the business of economic storytelling. Philadelphia's story has so much more left to be told.

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REPORT CONTENTS

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Find our full client list in the back of this report. What can we do for you?

Your need	Storytelling packages	Advertising campaigns	Events	Research
Tell my community's innovation story.	Yes!	Yes!	Yes!	Yes!
Promote my products and services to SMB and tech leaders.	Yes!	Yes!	Yes!	
Establish or support my company's employer brand marketing strategy.	Yes!		Yes!	

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2023: THE PHILADELPHIA TECH ECONOMY YEAR IN REVIEW

The Pennsylvania Broadband Development Authority releases its plan to disperse at least $100 million in federal funding.

Philadelphia Commerce Dept's Tech Industry Partnership launches quarterly meetings.

Inflation-targeted interest rate increases crushed sky-high tech company valuations. The transition from growth-at-all-costs to capital efficiency brought waves of tech layoffs, including at high-profile startups.

Comcast released a series of $1 million investments as part of Project UP, its $1 billion commitment to advance digital equity.

The Enterprise Center awards $200K in its first pitch competition for entrepreneurs of color — funded by the Most Diverse Tech Hub initiative from the city's Commerce Dept.

Apprenticeship program Apprenti expands across PA by partnering with Philadelphia Alliance for Capital and Technology (PACT) and the Pittsburgh Technology Council.

At its Innovation Weekend Summit, digital inclusion nonprofit 1Philadelphia announces plans to raise $20m by 2026. The group was named a co-organizer with Technical.ly of the next Philly Tech Week in May 2024.

Barcamp Philly returns: An early community event among civic-minded tech workers followed a rebound of tech meetups.

JAN

Technical.ly unveils our first rebrand in a decade, ahead of our 15th anniversary in 2024.

Influential coworkng community Independents Hall (Indy Hall) reestablishes at a new Northern Liberties location.

MAR

MAY

13th annual Philly Tech Week Presented by Comcast features 10k attendees from 30+ states across 40 events.

Philadelphia's foot-traffic recovery is the fifth strongest of big US cities, according to the Center City District influential Downtowns Rebound report. Where office work is down, entertainment is up.

JUL

A regional "precision medicine" consortium was short-listed by the US Economic Development Administration for "Tech Hub" distinction, and funding.

AUG

OCT

Katalin Karikó and Drew Weissman are awarded the Nobel Prize in medicine for their contributions covid-19 vaccines.

Cherelle Parker is elected Philadelphia's 100th mayor, and its first woman. Tech skills, workforce training and small biz support cited among her priorities.

NOV

Countering a tech slowdown, the Penn Center for Innovation announces its affiliated startups attracted over $1 billion in investment capital in 2023, its all-time high.

DEC

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TOP STORIES IN PHILLY TECH IN 2023

Greater Philadelphia got EDA Tech Hubs designation for precision medicine. Here's what comes next
The Ben Franklin Technology Partners-led consortium is now focused on putting together a unique application for federal funding in Phase 2.

 READ THE FULL ARTICLE

From Philly to Pittsburgh, Pennsylvania's Statewide Digital Equity Coalition is fostering collaboration across counties
PASDEC is a coalition of advocates from across Pennsylvania with a goal to ensure the fair dispersal of federal digital equity and broadband expansion funds.

READ THE FULL ARTICLE

Have you ever wanted to talk to Gritty? You now can with this entertaining and 'horrifying' AI chat bot
Gritty loves mayo, classic rock and Fishtown. And he's fine to admit he's on a few no-fly lists.

 READ THE FULL ARTICLE

What does college graduate retention look like in the Philadelphia region?
Computer science grads are less likely to stick around the region, Campus Philly has found. Consider this Drexel case study.

READ THE FULL ARTICLE

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TRENDS & NATIONAL TECH STORIES IN 2023

The remote work scam that's blowing up in the recruiting industry
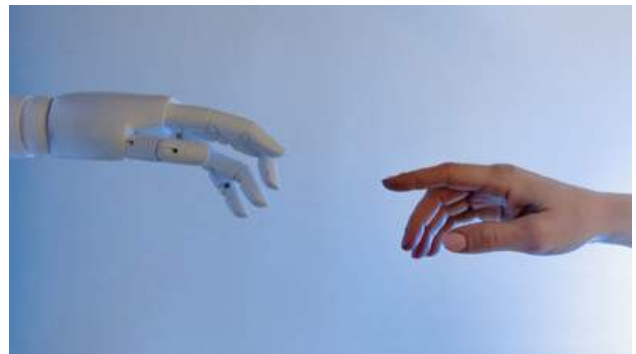
One design firm's tale of identity theft, and how companies and jobseekers alike can protect themselves from deception.

 READ THE FULL ARTICLE

How to go deeper with ChatGPT using prompt engineering

You've probably already done your share of prompt engineering. Here's how it applies to OpenAI's DALL-E and ChatGPT — which could, maybe, become Google's successor.

READ THE FULL ARTICLE

You've heard the term 'valuation' on 'Shark Tank.' What does it actually mean?

Have entrepreneurial dreams? Here's a concept you'll need to understand, especially if you plan to take venture capital at some point.

 READ THE FULL ARTICLE

Tech layoffs aren't likely to ease up after Microsoft and Amazon. Here's what to expect if you're affected

What's causing this shift, and what do former employees need to know about severance packages, vested stocks and other next steps?

READ THE FULL ARTICLE

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At the Technical.ly Builders Conference held May 2023, our founder-CEO Chris Wink identified three macro trends that are shaping the tech, startup and innovation communities we follow.

3 BIG TRENDS

BUILDERS CONFERENCE RETURNS MAY 9, 2024!

Entrepreneurship is booming.

After decades of declines, Americans started businesses during the pandemic at a faster rate than seen in generations. The business incorporation boom is led by women, many of whom are prioritizing flexibility over salary. Half of young workers now do some freelance work. Hiring managers will compete for workers with entrepreneurship — and that's a good thing.

Demography is destiny.

The American labor force is getting older and shifting geographically to the South and Southwest. Cities that retain college graduates and attract immigrants do best. All should take seriously fun and dynamic tech and entrepreneurship communities. Parties matter.

The Age of AI is real.

The digital transformation era is winding down. The Age of AI is a paradigm shift, far more than 3D printing, Blockchain, augmented reality — though they all remain impressive technologies. The urgency of retooling our workforce grows. Hiring managers must recognize the HR tech arms race; one-click apply ruined hiring. Instead, like those promoting their cities, your best asset isn't more tech but your people. Tell their stories.

PHILADELPHIA'S TECH ECONOMY BY THE NUMBERS

The region is big and established enough that Philadelphia ranks as a tech economy, but it underperforms by its size. Technical.ly evaluates a tech economy in various ways, including advanced research, tech startup growth and tech workforce.

Technical.ly clients are given further access and quarterly tech economy trends and analysis.
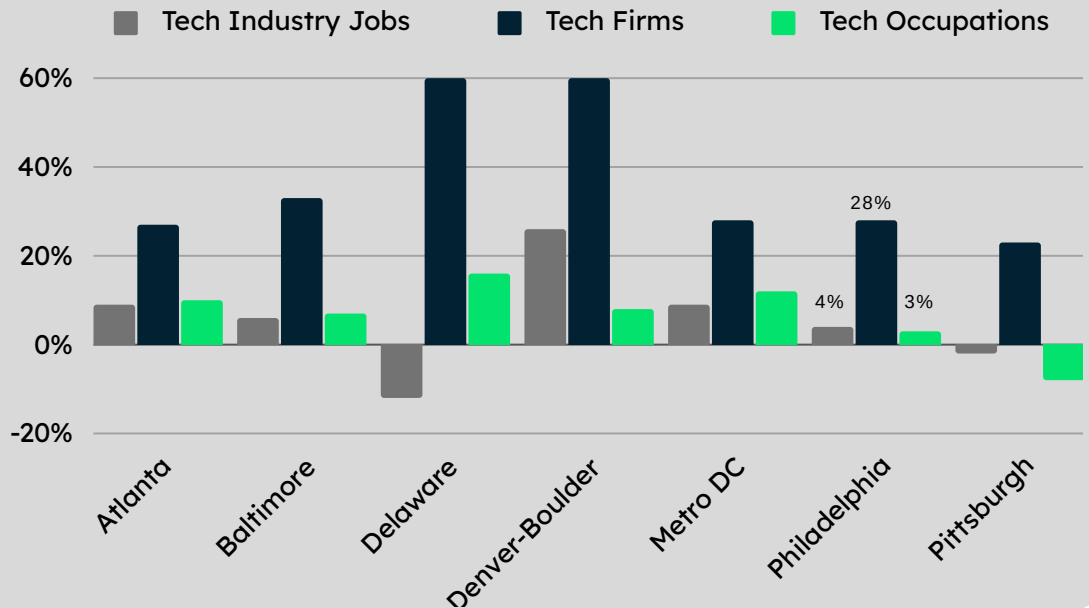
PHILADELPHIA REGION

9,328
TECH FIRMS IN THE REGION

98,829
JOBS AT TECH INDUSTRY FIRMS

134,746
TECH OCCUPATIONS AT ALL FIRMS

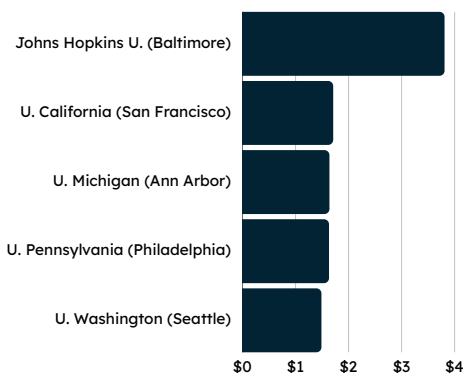## PERCENTAGE CHANGE: AUG. 2018-2023

SOURCE: LIGHTCAST VIA TECHNICAL.LY TECH ECONOMY DASHBOARD

Legend: Tech Industry Jobs | Tech Firms | Tech Occupations

Categories: Atlanta, Baltimore, Delaware, Denver-Boulder, Metro DC, Philadelphia (4%, 28%, 3%), Pittsburgh

R&D BUDGETS

Top five largest research & development expenditures of US universities (2021 in $B)

U. of Pennsylvania: $1.63B

- Johns Hopkins U. (Baltimore)
- U. California (San Francisco)
- U. Michigan (Ann Arbor)
- U. Pennsylvania (Philadelphia)
- U. Washington (Seattle)

Axis: $0, $1, $2, $3, $4

SOURCE: NATIONAL SCIENCE FOUNDATION

TECH STARTUP ECOSYSTEM VALUE

Value of exits and startup valuations (2020-2022 in $B) of select US cities.

Philadelphia: $69.12 billion

Axis: $0, $20, $40, $60, $80, $100

Categories: Denver-Boulder, Chicago, Philadelphia, Atlanta, Houston
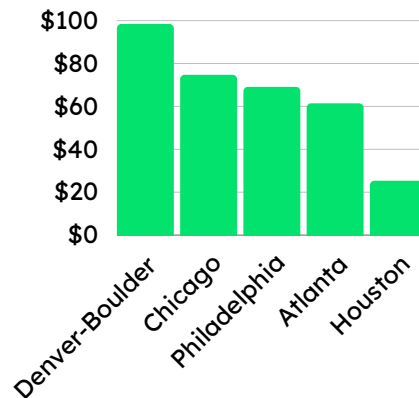
SOURCE: STARTUP GENOME PROJECT

TOTAL NUMBER OF SOFTWARE DEVELOPERS

Total number employed full-time as software developers as a rolling Q4 2022 average.

Philadelphia: 28,820

- Metro DC
- Atlanta
- Philadelphia
- Denver
- Baltimore (16,339)

Axis: 0, 20,000, 40,000, 60,000, 80,000

SOURCE: LIGHTCAST VIA TECHNICAL.LY TECH ECONOMY DASHBOARD

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EMPLOYERS WITH 7 MOST TECH JOB OPENINGS IN PHILADELPHIA REGION

Lockheed Martin	273
Comcast	239
CapitalOne	198
JP Morgan Chase	168
Deloitte	93
Vanguard / U. of Penn (Tied)	59

RACE OF TECH OCCUPATIONS IN PHILLY REGION

Black 4.9%
Other 0.1%
Asian 32.5%
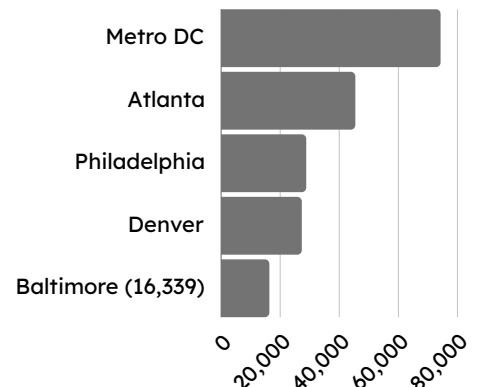White 58.2%
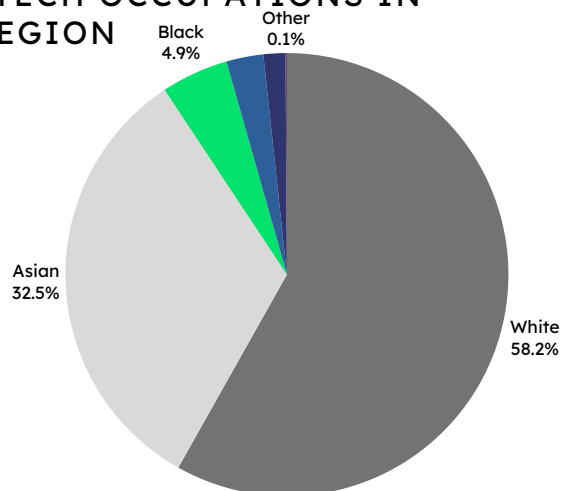
PHILLY'S TOP FIVE MOST COMMON TECH JOBS

Software Developers	28,820
Management Analysts	28,346
User Support Specialists	15,109
Systems Analytsts	10,414
Network Administrators	5,641

(x-axis: 0, 5,000, 10,000, 15,000, 20,000, 25,000, 30,000)
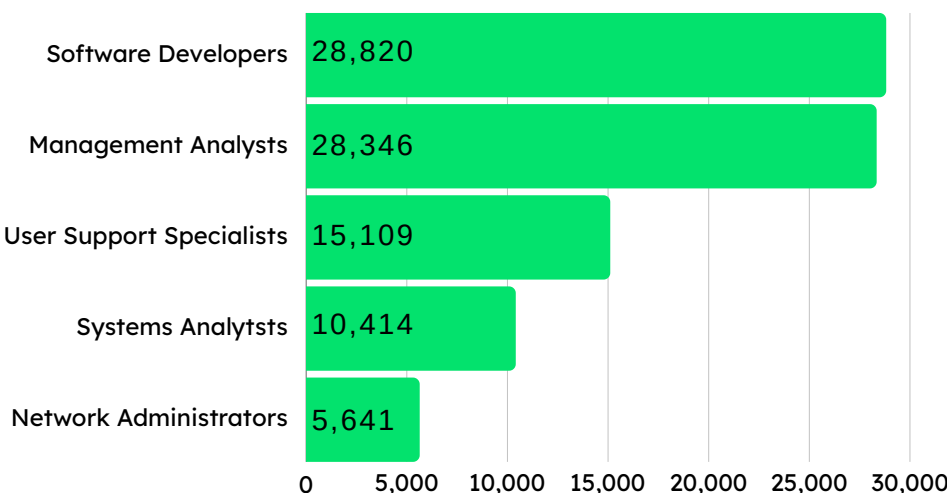
HOW MUCH ARE PHILLY-AREA TECH UNICORNS WORTH?

Most recent reported public valuations of select privately-held tech companies in Philadelphia region. (DuckDuckGo: $500m; June 2021)

Fanatics:$31B (Online sportswear; Dec. 2022)

GoPuff: $15B (Food delivery; May 2022)

dbt Labs: $4.2B (Feb 2022)

Phenom ($1.4B)

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HOW DOES PHILLY STACK?

This is Technical.ly's inaugural Tech Economy Report Card, produced for each of our daily markets using a range of quantitative sources. The goal is to highlight strengths to highlight and opportunities for improvement. Find details on methodology on Technical.ly's report announcement.

Category	Component	Grade
Invention (Research)	Research Community	B
	Advanced Research	A
	Tech Transfer	A
Commercialization (Business Formation)	Entrepreneurship Community	B
	Ease of Business (ASU)	A (#11)
	Access to Capital + Services	B
Development (Talent)	Technologist Community	B
	Tech training programs	C
	Large Employers	B
Lifestyle (Livability)	Cost of Living	A
	Live/Work/Play Amenities	A
	Population Growth	B
Reputation (Brand)	What Insiders Say	C
	What Locals Say	D
	What Others Say	B

Invention (Research)

The University of Pennsylvania system has one of the five largest R&D budgets in the country, and is active in the startup community. Temple U and Drexel U are both within top 150. Among top tier regions, it's only short corporate & government research, and a cross-institution community.

Commercialization

Among grumbling locals, the city's ease-of-business rankings is a surprise. Likewise, a robust startup community and capital access efforts are stronger than hometown critics will let on. Still neither have rebounded fully after the pandemic, and underperform relative to size.

Development (Workforce)

Penn, Drexel and Temple produce serious tech graduates, and tech employers attract senior workers, though remote work is softening that. Career training programs in the region have grown and are highly collaborative, but are small compared to population.

Lifestyle (Quality of Life)

Philadelphia is credibly one of the lowest-cost big cities in the country. Cultural amenities are vast, and the region's history, density and location offer an array of living arrangements (urban, suburban, rural, lakeside and beachside, for example). Millennials and immigrants led population growth in 2020, though the pandemic may have reversed some of these gains.

Reputation (Brand)

Philadelphia has problems, as any local will enthusiastically remind you. Talk to economic insiders from other regional cities, and Philly has a strong offering. Tech economy leaders in Philadelphia know it but remain self-critical, only outdone by a general population.

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WHAT DOES IT TAKE TO THRIVE IN PHILLY?

This report is part of Thriving, a yearlong storytelling initiative from Technical.ly focused on the lived experiences of Philadelphia. The project culminates with a 10-part audio documentary that follows 10 Philadelphians live now.

Read and listen to the series by visiting technical.ly/series/thriving

Ghulam Danesh and his family fled Kabul as the US military withdrew from Afghanistan. He now lives in the Oxford Circle neighborhood of Northeast Philadelphia, where he's trying to piece together a new life.

Linda Hines has lived in South Philly her entire life, working childcare jobs on a high school education. A nationwide labor shortage in early childhood education means she's an older worker that the American economy needs to retain — but she needs new certifications.

Colombia-born Gisselle Poveda is expanding her family's North Philadelphia restaurant, and Michael Tan is still recovering his Old City pastry shop from the wreckage of the pandemic.

Dorianna Diaz is trying to mix gig work with her life as an artist, and Jaquan Fields has a dream of growing the birthday clown business he's grown out of Frankford where he lives now into a fully-fledged traveling circus.

These stories are remarkable and yet so commonplace. These people are a few of the 10 Philadelphians whose economic journey Technical.ly has followed for more than a year as part of our Thriving project — which has featured more than a hundred interviews from a dozen US cities and focus groups. The goal? Add lived experience to the rich data we have about what it takes to economically thrive in the United States.

The project is culminating with an audio documentary that we're releasing as a 10-part podcast. We at Technical.ly led the project and produced the audio doc with Rowhome Productions, thanks to support from the William Penn Foundation, Pew Charitable Trusts and the Knight Foundation.

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HAVE INCLUSIVE ENTREPRENEURSHIP INVESTMENTS DONE ANYTHING?

READ THE FULL REPORT

With support from UBS, Technical.ly released "The Inclusion Edge: Powering an Entrepreneurial Renaissance", a landmark report on the past, present and future of inclusive entrepreneurship.

Kelly Burton launched her tech-based apparel company Bodyology in 2014. She developed a product, added customers and grew revenue.

Three years later, she wasn't where she wanted to be.

Burton, a Black woman and first-time tech founder, felt excluded from the network of investors that specialized in her industry — a common challenge among founders of color. Short of the growth rate other startup apparel brands sought, she closed the business. Then she decided to focus on helping other entrepreneurs overcome the obstacles she had faced.

Burton is now the CEO of the Black Innovation Alliance (BIA), and she represents a range of trends in "inclusive entrepreneurship," an advocacy priority that has grown over the last 20 years into a major economic policy objective.

Burton is one of dozens of entrepreneurs Technical.ly interviewed for a new landmark report we're publishing today, with support from the Community Impact, Americas team from UBS, entitled "The Inclusion Edge: Powering an Entrepreneurial Renaissance." The report looks at the past, present and future of inclusive entrepreneurship.

August 2023

The Inclusion Edge:
Powering an Entrepreneurial Renaissance

A Special Report On The Past, Present and Future of Inclusive Entrepreneurship

Research

Entrepreneurship boomed in the United States after the immediate pandemic shock, and Black women have helped lead the effort. Higher rates of immigration contributed, too. Though the demographics of those who start companies in the United States have become more representative of the country's population as a whole, those who grow companies haven't changed as much. Put another way: Most American demographic groups start companies but not as many grow them.

Burton felt she didn't have the network to grow a tech company a decade ago. Now she's part of a wave of programs to make it easier for others. A decade of investments in inclusive entrepreneurship may have met the pandemic moment. Now there's a whole new stage of inclusive entrepreneurship priorities.

Informing those who set those priorities is the goal for this report.

Find the full report at technical.ly/become-a-client/research/

UBS

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REALLIST STARTUPS: MEET THE 2023 CLASS OF MOST PROMISING PHILLY TECH COMPANIES

This year's top 10 startups and 10 runners-up are making waves in healthcare tech, analytics, gaming, environmental tech, education, workplace tech, fintech and entertainment.

What a year for tech.

In an industry that brings us creativity, life-altering inventions and artificial intelligence-driven decision making, that's probably something that could be said every January. But if you found your way as an early-stage founder through the darkness of the pandemic, you were faced with new problems in 2022. It was a hell of a year for many tech companies, with fluctuating valuations, venture capital trends riding in waves and sweeps of layoffs. But a lot of good, smart technology was also created.

And it's time to celebrate that. Every January, Technical.ly sets out to make a list honoring the most promising tech startups that we've seen do big things recently. Our RealLIST Startups names companies based in the Philadelphia region that have found their footing, struck the right chord and are poised for impactful growth.

This year, we saw some strong healthcare companies take the top few spots, as the pandemic disrupted much of how health systems operate. We also noted some startups from repeat founders with proven track records who have seen quick success since they launched these newer ventures. A few companies in growing markets like AI and business operations also made the cut.

As always, the companies chosen for the RealLIST fit these criteria:

- Founded no earlier than three years ago, or 2020
- Make the lion's share of their revenue from a specific product offering — so, no agencies
- And have not been through a significant exit event like a merger or acquisition

Though as a rule, we look at companies that have been around for about three years or less, we here at Technical.ly also know that the "founding" date of a company can be pretty arbitrary.

Read on to learn about the promising startups we think will make an impact this year. These are your RealLIST Startups of 2023 in Philadelphia:

10. EdLight

This edtech app that lets teachers see student work digitally and give feedback was cofounded by educator Teryn Thomas. The South Jersey resident is an alum of Drexel University and University of Pennsylvania, and has a long history working within schools in Greater Philadelphia.

In September 2022, Thomas was picked for the latest cohort of the Google for Startups Accelerator: Black Founders, where she was seeking mentorship with technical development and community within the tech space.

Support for RealLIST Startups from Morgan Lewis

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9. SnapRefund

The maker of a platform designed to get insurance payments to customers faster slightly fudges our RealLIST rules. The first iteration of the company, known as Dime, was founded in late 2019 and aimed at helping underbanked people gain greater control of their money. But in 2021, the startup founded by Cody Eddings and Anis Taylor pivoted to the insurance space.

It's where they hit their stride. The company was a runner-up on the 2022 realLIST, but has since launched its product, was selected as a showcased FedNow service provider, won $15,000 in the CBK Ventures pitch competition, joined Chase Bank's accelerator, and got a $100,000 investment from Northwestern Mutual's Black Founder Accelerator.

SNAPREFUND'S COFOUNDERS ANIS TAYLOR (LEFT) AND CODY EDDINGS. (COURTESY PHOTO)

8. BOSS.Tech

Cofounders of Philly tech mainstay STRATIS IoT departed the company in the wake of two acquisitions and struck out on their own to create this automated business operating solution. The platform, which is aimed at small and medium-sized company, gathers APIs from subscriptions like SalesForce, Monday.com and others to have a cohesive place for business owners to check in on the status of their business operations.

Since they launched the company in mid-2022, Ryan Buchert and Felicite Moorman have hired a team of about 10 and have launched a website for the business.

7. LLUNA

People operations platform LLUNA was also on 2021's runners-up list, but its busy year in 2022 lands it on the 2023 list. CEO Jess Podgajny and CTO Aaron Kamholtz are cofounders of the platform, which is an operating system with the goal of improving communication and productivity among teams.

"Now that we have this piece in place for employees, we really want to elevate the idea it's OK to want and need different things to work," Podgajny said in March. "And having a tech-enabled solution, we can support employees, managers and C-suites, and that's super energizing for me."

MEMBERS OF THE LLUNA TEAM. (COURTESY PHOTO)

6. Regression Games

Before it even had a product, early-stage gaming company Regression Games had impressive backers for its $4.2 million seed round — New Enterprise Associates (NEA) with participation from fellow bigwig Andreessen Horowitz (a16z). Founder Aaron Vontell developed the AI-focused company after moving to Philadelphia in early 2022, and the platform allows players to program their characters and games to operate automatically without moment-by-moment human input.

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5. CollX

This app, founded in 2021, was built to scrape pricing data from multiple websites to help a user understand the rarity and price of a sports card. The company had just launched when we were crafting our 2022 RealLIST, and landed a runner-up spot. After making an acquisition of Denver-based Card Dealer Pro this past summer, the startup hit hundreds of thousands of users, generated revenue from dealer subscriptions and in its app, and exhibited at the National Card Show.

4. Omni

In the second half of 2022, we heard about business intelligence tool Omni, cofounded by RJMetrics and Stitch alum Chris Merrick. He linked up with Jamie Davidson and Colin Zima who work from the Bay Area to launch the tool, which generates data models and components from SQL, creating a sandbox data model and allowing users to use metrics across a whole organization.

3. Sena Health

This healthcare-at-home company got its start in 2020 by founder Anthony Wehbe, a longtime local healthcare professional and hospitalist who was looking for a tech-enabled solution for giving care in patients' homes. Sena uses both hardware and software to coordinate at-home care by nurses and physicians in partnership with a network of healthcare systems, and launched its services with local healthcare providers in spring 2021.

2. Cayaba Care

Two physicians, Dr. Mary Fleming and Dr. Olan Soremekun, are behind 2020-founded Black maternal health startup Cayaba Care. The West Philly-based startup brings pregnancy care to patients' homes through "maternity navigators" who make in-person visits between appointments, and access patient data stored in an app.

MEMBERS OF THE CAYABA CARE TEAM. (COURTESY PHOTO)

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1. Patina

The healthcare space in Philadelphia continued to grow in 2022, especially when ex-accolade executive Jack Stoddard launched Patina in 2020 with $57 million in investments co-led by Andreessen Horowitz and GV under his belt.

Patina offers a mix of virtual and at-home primary care for older adults that works with patients' Medicare Advantage plans. The company's virtual platform brings all aspects of a patient's care plan together and offers a "health champion," a virtual point-of-contact to help navigate care, get prescriptions delivered and help set appointments among other tasks. The company was inching toward 100 employees at the end of the year.

"I was watching my own parents, who are almost 80, not get the care or dignity they deserve," Stoddard told Technical.ly. "And they're not alone — there's more than 50 million people 65+, most who are trapped in a primary care model that is in many ways corrupted in fees-for-service reimbursement."

PATINA TEAM IN DECEMBER 2022. (COURTESY PHOTO)

And the runners up, in no particular order:

- **Kith + Kin** — This 2022-founded digital management solution allows users to store, share and keep organized healthcare information. It's raised $1.3 million to date.
- **Passthrough** — This SaaS platform serves the VC space. Subscription documents can be distributed via email, submissions are checked for compliance in real time, and documents can be executed electronically.
- **BLOK** — This food tech startup makes smart cutting boards with a digital display and docking station. Users can learn how to cook via live and on-demand cooking classes.
- **HeyKiddo** — This 2020-founded mental health app helps parents navigate support for their kids' mental, social and emotional health.
- **TrackCE** — This mobile app to allows doctors and nurses to keep their education and certification credentials in one place. The team launched their MVP in 2022 and bagged $10,000 at CBK Ventures' first pitch competition.
- **Baleena** — Makers of a device to trap microfibers in washing machines, this startup launched in 2022 and already won Pennovation's 2022 pitch day.
- **Propeller** — The insurtech startup recently raised $6.4 million for its platform that offers agents and brokers a white-labeled URL that houses surety bond obligations and allows agents and customers to quote, pay, and receive their bonds.
- **Vertige** — This 2021-founded app allows users suffering symptoms of vertigo to track environmental factors, behavior and habits like weather, sleep, movement, food triggers, caffeine intake and screen time. The startup was recently in the gener8tor ProsperHealth Tech accelerator.
- **ToxiSense** — This startup, founded by Penn Students, aims to provide a sustainable and cheaper test for clean drinking water through engineering plants with bioluminescent properties. The company took home $85,000 from Penn's Venture Lab Startup Challenge pitch competition in 2022.
- **Fabric Health** — The Philly-based company brings tech-enabled healthcare to laundromats. The company operates in a handful of laundromats in North Philadelphia and Parkside, and in 2022, it expanded to Pittsburgh following its first place win in Richard King Mellon Foundation's first-ever pitch competition last January.

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REALLIST CONNECTORS 2023: MEET 20 (MORE) PEOPLE BRINGING PHILLY'S TECH ECOSYSTEM TOGETHER

New to the local tech scene? Looking to expand your network? Here are some of the most connective leaders you should know to get involved.

Imagine: You're at an event looking for someone who can help you find investors for your startup. Or you're looking for organizations to collaborate with on tech equity initiatives. Or you're looking to recruit more people for your coding meetup group.

The nice thing about the Philly tech community is that you will probably be able to find someone who can help you with your particular niche, either directly or by recommending someone else.

If you relate to any of those scenarios, then this is probably the right article to be reading.

Welcome to the fourth edition of Technical.ly's RealLIST Connectors list. We like to think of it as an addendum to past lists: The first one in 2020 featured 100 connective people to know in the Philly tech community. In 2021, we picked 20 more, and in 2022 there were 22 more. Read them all to find out who's who.

This latest roundup showcases 20 people in the Philly tech ecosystem who are extremely connected and influential in the community. Each year's list was developed by the Technical.ly newsroom with the help of public nominations, suggestions from past Connectors and our own close following of the news of the past year. (P.S. Technical.ly's RealLIST nominations are now open year round, so you can nominate a person or company for the RealLIST Startups, RealLIST Connectors or RealLIST Engineers, any time.)

This year's list includes people who have been around the block in Philly tech, but also some new faces. Let us introduce you to them.

Jabari Adams
- Managing director of company relations at LaunchCode
- In his role, Adams works to find job opportunities for LaunchCode's participants and maintain relationships with partner organizations. Adams is passionate about workforce development, and that attitude shines through when he talks up LaunchCode candidates to potential employers.

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JAMIE CALABRIA. (COURTESY PHOTO)

Jamie Calabria

- Talent and culture manager at Crossbeam
- In addition to their tech community-facing role at the Philly startup, Calabria is the head of the Philadelphia chapter of Out in Tech, an organization that supports and provides career growth opportunities to LBGTQ+ technologists, through which they manage an active Slack channel and host meetups to build community, according to their nominator. Calabria is also on LaunchCode's regional advisory board.

Sandra Carter

- Interim chief information officer for the City of Philadelphia
- Carter recently took over this role from Mark Wheeler, who was in the position for five and a half years. Carter was previously COO and deputy CIO of unified communications for local gov, working directly with Wheeler. In her new role, Carter told Technical.ly, she's focused on supporting public facing city departments through the Office of Innovation and Technology so Philadelphia residents can get the services they need from the City.

Tempest Carter

- Director of strategic technology initiatives for the City of Philadelphia's Commerce Department
- Carter has only been in her role for a year, but has already made an impact on diverse founders through the City's Most Diverse Tech Hub initiative, which seeks to help Black and brown people into tech careers. Her nominator said her work has helped "sell" Philadelphia to new tech companies and bring resources to local founders.

TEMPEST CARTER. (COURTESY PHOTO)

Prema Katari Gupta

- Incoming CEO for the Center City District
- At the end of this year, Paul Levy will fully step away from his role as president and CEO of the Center City District, which supports businesses, public spaces and other institutions in Philly's downtown, after 30 years in the role. His successor has big shoes to fill, but comes with her own stacked resume: Gupta is the current VP for parks and public realm at CCD where she oversees four city parks and manages other Center City projects. She also has previous experience with the Philadelphia Industrial Development Corporation and University City District.

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DENITA HENDERSON. (COURTESY PHOTO)

Denita Henderson

- Managing director at Pennovation Works
- Henderson came into her role last fall at Pennovation Works, where she manages its startup community and Southwest Philadelphia campus consisting of labs and office space to support researchers and entrepreneurs. Henderson works with the Penn Center for Innovation, PCI Ventures and the Office of the Vice Provost for Research in her role.

Mary Beth Hertz

- Art teacher at the Science Leadership Academy at Beeber
- Besides her day job, Hertz is the founder of Walkabout Philly, an organization that encourages education through community connections and real-world skills. Hertz is also passionate about technology: She's taught about Web3 and NFTs in her art class because she believes it's important to expose students and prepare them for the tech that will impact their futures.

Kenyatta James

- PAGE program director for The Economy League of Greater Philadelphia
- Through the PAGE program, James supports minority entrepreneurs to grow their businesses. In this role, James also works with anchor institutions in the Philadelphia region, connecting them to the smaller businesses PAGE supports. He's also involved with the PAGE Hurdle Fund, which takes aim at the racial wealth gap for entrepreneurs.

Michael Johnson

- Founder and event director of the Philadelphia Robotics Coalition (PRC)
- PRC supports STEM education in Philadelphia's public school system through robotics programs. The organization was founded in 2016 by Central High School's robotics team, the Robolancers. Johnson is their coach and saw them through a successful robotics season this year where they won the FIRST Impact Award at the world competition for the work they do through PRC.

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Margot Kane

- Chief investment officer of Spring Point Partners
- Spring Point Partners is focused on social impact through investing in groups that support justice and community. Kane's nominator called her a "legend in the impact investing space," and said from their own experience working with her, they've seen how respected she is and that she makes connections that create equity.

NICODEMUS MADEHDOU. (COURTESY PHOTO)

Nicodemus Madehdou

- Cofounder of JumpButton Studio
- Madehdou's company JumpButton Studio hosted the first PHLGaming event this spring. A developer and tech community mainstay since his teens, Madehdou said the goal of the event was to bring Philly's gaming community together and let youth know that they don't have to leave the city to pursue a career in gaming or game development.

Munir Mandviwalla

- Executive director of Temple University's Institute for Business and Information Technology (IBIT)
- Mandviwalla's research focuses on digital transformation, broadband, social media, and IT workforce. Through IBIT works with industry stakeholders, academics and students to research best practices in business and technology. His nominator said Mandviwalla is "invested in building ties with regional tech execs and local tech community and developed a standalone institute that brings rigor and connections for students."

Heath Naquin

- VP of government and capital engagement at the University City Science Center
- In his role, Naquin is in charge of all programs at the Science Center related to entrepreneurial support, including the Capital Readiness program and the Founders Fellowship. He is also particularly focused on health equity and thinks it's important for companies to remember accessibility when thinking of ideas. He previously told Technical.ly, "the one key thing institutions can do [is] don't assume you know what communities' [needs] are. Open your ears and listen. Go to where problems are."

HEATH NAQUIN. (COURTESY PHOTO)

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DESMOND UPTON PATTON. (COURTESY PHOTO)

Desmond Upton Patton

- Founder and director of SAFELab
- Upton Patton brought the SAFElab, a research lab focused on the intersection of technology and social work, from New York City to the University of Pennsylvania last year. Since coming to Philly, he has been trying to connect with the Philadelphia tech community as much as possible to focus on advocacy and filling gaps in tech.

HEATHER QADER. (COURTESY PHOTO)

Heather Qader

- Founder of The Qader Group
- Qader's company is a business consulting firm where she helps companies improve their operations and impact. Qader's nominator said she is specifically passionate about helping other women in tech and business succeed. She hosts workshops, social events and mastermind cohorts to connect current and would-be technologists and entrepreneurs (including a sold-out Philly Tech Week 2023 meetup).

Kate Rivera

- Executive director of the Technology Learning Collaborative
- Rivera is a leader in Philadelphia's digital equity space through TLC, which hosted its annual conference last October bringing together digital equity leaders from across the city. Outside of TLC, Rivera owns her own consulting business, where she works with digital equity- and youth-focused organizations.

KATE RIVERA. (COURTESY PHOTO)

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Nick Valeriano

- Angel investor, advisor and mentor at Robin Hood Ventures and Mid-Atlantic Diamond Ventures
- Valeriano's skill set lies with helping early-stage startups in the Philadelphia region, working with companies from the idea stage to Series A. His nominator said Valeriano also works as a software consultant and that experience "helps give him a unique understanding of how to disrupt and improve poorly designed processes." He also hosts TwitchPitch, a weekly event where founders can pitch to him on Twitch.

NICK VALERIANO. (COURTESY PHOTO)

Ethan Wergelis-Issacson

- Director of enterprise strategy at McKesson
- Wergelis-Issacson works in venture capital and mergers and acquisition at the healthcare company, and was once a leader of Philadelphia's DreamIt Ventures healthtech accelerator. His nominator called Wergelis-Issacson "a super-connector" who frequently makes connections in the pharmaceutical and health-tech industries. He is also an organizer of the meetup group HealthTribe.

Aisha Winfield

- Executive director of the Blues Babe Foundation
- This year, Winfield was one of the organizers of FRSHWV, a teen tech and music festival that kicked off Philly Tech Week. Her background is in the arts and entertainment industries, but her nominator said she is passionate about providing accessible and inclusive learning and career opportunities to Philadelphia's youth.

Joe Woods

- Organizer of the Philly JavaScript Club
- Woods' day job is as a senior client application development lead at Fastmail, but he dedicates his free time to the local tech club scene. His nominator said Woods goes out of his way to connect with other local tech clubs and has played a huge part in bringing back local tech club events.

JOE WOODS. (COURTESY PHOTO)

The RealLIST

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REALLIST ENGINEERS 2023: MEET 15 OF PHILLY'S MOST IMPACTFUL TECHNOLOGISTS RIGHT NOW

These Philadelphia tech community members are not only developing cool technology, they're sharing their skills through volunteering, mentoring, public speaking and more.

It's time again to recognize the people who literally make the tech world function.

This is the fifth year that Technical.ly is recognizing influential technologists in our community who show impressive technical aptitude, community leadership and collaborative practices, aka our RealLIST Engineers. These people are software engineers, IT directors, cybersecurity pros and more, but what they all have in common is a passion for tech and a desire to spread their knowledge through volunteering, public speaking, mentorship and the like.

Technical.ly spent weeks gathering nominations from our community and reviewing the past year of reporting before narrowing it down to this list. Spoiler alert: We were tasked with keeping this one to just 15 technologists, but you'll spot two co-leaders of one org, so technically there are 16 on this list. More to love, right?

Without further ado, check out this year's RealLIST Engineers.

Eric Belardo, business unit security officer, Dell

Belardo has been working in cybersecurity for 33 years. He was a member of the military before working in the civilian market at companies such as ProtectX Cyber Solutions.

Outside of his current day job at Dell, Belardo is the founder and executive director of Raíces Cyber, an organization that supports Hispanic, Latino, Latina and Latinx people in cybersecurity.

Jason Blanchard, engineering lead, Employee Cycle

Before his current role at the local HR tech firm, Blanchard was an engineering team lead at Instructure and a senior software engineer at Practice. He was also previously a course instructor at New York Code + Design Academy.

"In addition to his stellar work in a leadership role for our organization, he has also started spreading that philosophy and methodology through public speaking efforts," Blanchard's nominator wrote.

Tom Boutell, CTO, Apostrophe Technologies

Boutell is a bit of an early internet celebrity, having created early web analytics software and a popular shareware application. He is also one of the brains behind the PNG file format.

Other cool projects include biology visualizations at his first tech job as a programmer at Cold Spring Harbor Laboratory and creating RealAudio when he was a software engineer at RealNetworks. At his current company, Boutell led the software effort to create ApostropheCMS.

Leslie Chapman, engineering fellow, Comcast

Chapman has 20 years of engineering experience, with one highlight of her career being a technical lead of Comcast's X1 platform.

Her nominator said Chapman is also passionate about helping young women enter the technology field and makes herself available to support other engineers. She has written about addressing bias in tech, making tech terms more digestible and navigating organizational changes.

Amy Chen, staff partner engineer, dbt Labs

Chen has been at dbt Labs for almost five years. Before their current role, they were a partner engineering manager and senior partner engineer at the company. Chen has been expanding their expertise via public speaking, including earlier this year at the international Kafka Summit, dbt Labs' own Coalesce conference, a data.world panel on data governance and other online forums.

Jeremy Gatens, IT director, University of Pennsylvania

Gatens' role is to support the technology behind the human resource department at Penn, and was recently involved in the launch of a new support model for HR. He is also a member of the university's Accessibility User Group, which is dedicated to making tech more accessible for Penn employees.

Ashley Griffin, software engineering manager, HealthVerity

Before working at the Center City-based data company that serves the healthcare industry, Griffin was a development chapter lead and software developer at Vanguard. She's been in her current role for about a year.

During her talk on imposter syndrome at Technical.ly's 2023 Developers Conference. Griffin discussed her personal experiences with imposter syndrome and advised attendees to find a positive support network — and embrace failure.

"It's a false belief that you're not as intelligent and as capable as others see you, despite evidence supporting that you have those capabilities and intelligence," she said during the talk.

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Matthew Hawthorne, independent software consultant, Supreme Informatics

Hawthorne's previous roles include staff software engineer at Twitter, senior principal engineer at Comcast and senior software engineer at Netflix.

His nominator said his extensive experience allows him to "zoom out" to see how the larger product will turn out when working on a project.

"He brings much more to the table beyond his technical prowess; he's also a great leader who can communicate effectively, asking the right questions and making change happen even during the trickiest of organizational situations," his nominator wrote.

MATTHEW HAWTHORNE. (COURTESY MATTHEW HAWTHORNE)

Noah Lee, senior business data analyst, SEPTA

"Noah is the brains behind all SEPTA's emerging internal data analytics capacity," Lee's nominator said.

Earlier this year, Lee shared SEPTA's new Open Data Portal on his LinkedIn, saying that this tool will help make SEPTA's data more accessible.

Before pursuing his interests in data analytics and visualization, Lee received his bachelor's degree in computer science from the University of Pennsylvania.

BRANDON MORTON. (COURTESY BRANDON MORTON)

Brandon Morton, VP of AI innovation, Lithero

Morton is in his first startup tech role at the University City company that uses artificial intelligence to review marketing materials for drug companies. He previously was a researcher and project director of civic technologies at Drexel University's ExCITe Center. Morton has a Ph.D. in electrical engineering from Drexel.

At Lithero, Morton is in charge of developing the analytical backend of the company's platform. He recently told Technical.ly that it was challenging to adjust from the expectations of academia to a startup, but he enjoys the problem-solving aspect of his role and the small team atmosphere: "Everything I touch the user eventually sees, so it's very impactful, the work that I'm doing," he said.

Khalil Saboor, software engineer II, American Express

Saboor and Ryan Small are two of the cofounders of Black Tech Philly, an organization focused on tech education and supporting new technologists who are entering the industry.

He is an alumnus of bootcamp Zip Code Wilmington and worked as a freelancer for a while before he eventually landed a full-time position at GSK. In January of this year, he became a software engineer II at American Express. Through Black Tech Philly, he helps other aspiring technologists pursue tech careers.

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Gary Sieling, senior principal software engineer, Certara

Prior to his role at Certara, which in 2021 acquired Blue Bell-based software company Pinnacle 21, Sieling has held senior roles at Wingspan Technology and Element 84. He is deeply involved in the Philly tech scene, his nominator told Technical.ly, having served on organizing committees for the Philly ETE conference, Northeast Scala Symposium and the Philadelphia local Scala meetup, PHASE.

Ryan Small, software engineer, enfuse.io

Small is also one of the cofounders of Black Tech Philly (see above). Small previously told Technical.ly he started seriously pursuing tech when he attended Zip Code Wilmington. He shared that he had some trouble landing his first full-time role after the bootcamp, but went on to freelance and eventually landed a job as a software engineer at JPMorgan Chase. He's now a full-stack software engineer at enfuse.io.

RYAN SMALL. (COURTESY RYAN SMALL)

Travis Southard, software engineer, Brooksource

Outside of his day job, Southard volunteers for the civic tech organization Code for Philly. Last year he was the team lead of a project that worked on an expungement petition generator for Philadelphia Lawyers for Social Equity.
More recently, Southard was a volunteer developer for Code for Philly's Launchpad 2023 event, working on a geospatial web application to connect Philadelphians with third places.

Rebecca Stark, principal software engineer, Crossbeam

Stark's previous positions include senior software engineer at Comcast and senior associate of product innovation at ConnectEDU. Her nominator said her "superpower" is taking the client's requests and turning them into clear, achievable projects.

Highlights from her time at Crossbeam include efforts to revamp the company's reporting engine and data sharing system.

"She is the primary sounding board for engineers when it comes to solving our hardest technical problems," her nominator said. "Rebecca has grown from a core contributor on an early team of 8 to a pillar of our … engineering organization. She excels both at delivering software and at mentoring those around her to an excellent standard."

Martina Tejeda, director of engineering operations, Comcast

Tejeda worked her way up at the telecom giant over the course of 20 years after starting out as a technical support analyst. Now she leads 14 engineers on the national provisioning team, which works on server builds, deployments, software upgrades, security fixes, in-tool development and custom server monitoring.

She is also a member of TECHWomen and BENgineers at Comcast. Through those groups, she volunteers with young people in Camden and Trenton to teach them how to code.

"I want children to know, especially the brown girls, that they can have a future and it can be as bright as they want it to be," she previously told Technical.ly.

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TECHNICALLY'S PHILLY 2023 AWARDS

It's your chance to shout out the success of local tech businesses, as well as the dedication of professional, technical and impact leaders. Who's making your community better? What products and companies will most shape the future? Who's done the most work this year to widen tech's tent?

The categories are:

- **Invention of the Year** — What product, project or release this year is best poised to change their industry?
- **Tech Community Leader of the Year** — Who has most made this community better through coalition building, nonprofit work, access-minded initiatives, policymaking or other pathways?
- **CTO of the Year** — Who is leading groundbreaking technical work within their company or organization? (Similar titles beyond CTO will be accepted.)
- **Tech Company of the Year** — What promising startup or growth-stage company is tackling an interesting problem, shaping its industry or inspiring a brighter collective future?
- **Culture Builder of the Year** — What empathetic leader or organizer is making their workplace or professional group more inclusive, resilient or engaging? ("Leader" doesn't need to mean they hold a leadership title.)

Winners will be announced December 2023.

Support for the Technical.ly Awards from COMCAST

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THROUGH THE AFFORDABLE CONNECTIVITY PROGRAM, VERIZON IS CONNECTING UNDERSERVED RESIDENTS TO THE INTERNET

BY ABBY LEE MOSCONI

In 2020, when the pandemic had us confined to our homes, access to high-speed internet became a critical tool for all Americans. Whether needing reliable connectivity for school, health care, banking, or government benefits and services, it was clear that those who could not afford or confidently navigate the internet would be at a grave disadvantage.

In Philly, that disadvantage is pervasive. Research shows that in 2021, one in six Philadelphians lacked home broadband service and 32% were "subscription vulnerable," meaning they dealt with service interruptions or relied on discount programs to stay connected. The main barrier to access was affordability: More than 90% of Philly residents with broadband service stated that over $20 per month for internet access was too high. Also noted was the need to acquire the skills to use the internet effectively.

For Eric Reed, VP of state government affairs for Pennsylvania and Delaware at Verizon Communications, building digital equality in the region is mission critical.

"At Verizon, we're being very intentional about creating programs and shaping public policy that enables us to invest in better broadband access for the un- and underserved residents of Philly," Reed said. "One thing we know is that public-private partnerships do work. We have to roll up our sleeves, be vulnerable, engage in conversations with stakeholders and tackle the tough questions for better outcomes."

To ensure everyone had equal access to broadband connectivity during the pandemic, the FCC created the Affordable Connectivity Program (ACP). The program continues to provide eligible households with a discount of up to $30 per month toward their internet service, making access, in some cases, free or close to it.

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PREVIEW: TECHNICALLY IN 2024

	Editorial Calendar	Key Initiatives
Q1	• Tech Careers Pathways • Early Employees • Future Research	**The RealLIST** • RealLIST Startups
Q2	• Entertainment Tech • Thriving Tech Communities • Future of Work	• ReaLIST Connectors • Philly Tech Week (May 3-11) • Builders Conference (May 9) • Developers Conference • NET/WORK tech jobs fair
Q3	• Advanced Manufacturing • Senior Technologists • Life Sciences	**The RealLIST** • RealLIST Engineers
Q4	• Cybersecurity • State of Local Tech Economy • 150 Years in the Future	• Technical.ly Awards • State of the Tech Economy report

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