



Dice[®]

ISSUE #5: Q1 2021

DICE Q1 TECH JOB REPORT

The Fastest-Growing Hubs, Roles and Skills



OPTIMISM FOR A SWIFT RECOVERY DRIVES Q1 TECH HIRING BOOST



I want to start by saying that, as we begin to see the light at the end of tunnel after more than a year of isolation and look toward the dawn of a post-COVID era, I’m simply glad to be on this journey with all of you. The pandemic affected us all, though if there’s one thing I’ve learned to count on, it’s the resilience of people, and the amazing outcomes we can see as a result of persistence.

We released our Q1 Tech Job Report in April of 2020. Although the first quarter of that year happened to be a recent highwater mark for tech hiring, the horizon could not have looked (and felt) more uncertain. My viewpoint

as we release our first Tech Job Report of 2021 is fundamentally different. While I’m a positive person by nature, I know that I’m not alone in the optimism I feel in reviewing the state of tech hiring in the first quarter and the momentum we’ve seen over the past four months.

As you can see from [the graph on page 3](#), tech hiring has consistently increased since November 2020, with each month outperforming the last. Overall, the first quarter of 2021 showed a 28 percent increase in job postings from the fourth quarter of 2020. While any quarter-by-quarter analysis is impacted by factors like seasonality, the drastic increase we saw in this instance suggests more than just a general optimism about the recovery of the economy.

Increasing confidence seems to be translating into a widespread demand for talent across a variety of industries and verticals. As we cover in this report, of the top 50 hiring organizations thus far into 2021, 60 percent are hiring more than in the pre-pandemic

Q1 2020. More than ever, organizations need technologists who have the experience to help them innovate and transform strategies for growth; if anything, COVID-19 only accelerated the pace of digitization for businesses around the globe.

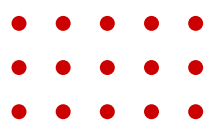
However, it’s not all positive news, as there’s still ground to make up from last year (Q1 2021 job postings are down 22 percent when compared to Q1 2020), and the breadth, depth and pace of the economic recovery remains to be seen. For me, however, the consistent growth in tech job postings over the past four months, coupled with a comparatively and objectively low-tech unemployment rate (the unemployment rate for IT occupations remained at 2.4% in March, compared to 6% nationally for all occupations), shows us that we should not be surprised to see continued growth in tech hiring over the coming months and throughout the remainder of 2021.

In this edition of the Dice Tech Job Report, we present data that compares the rank of states, cities, occupations and skills in Q1 of 2021 to their positions in Q1 of 2020, as we felt it best represented the most important shifts and changes in the tech hiring landscape. We also delve into the locations, occupations and skills seeing growth through a comparison of February and March 2021.

We hope that you will find this information useful as you plan for the remainder of the year.

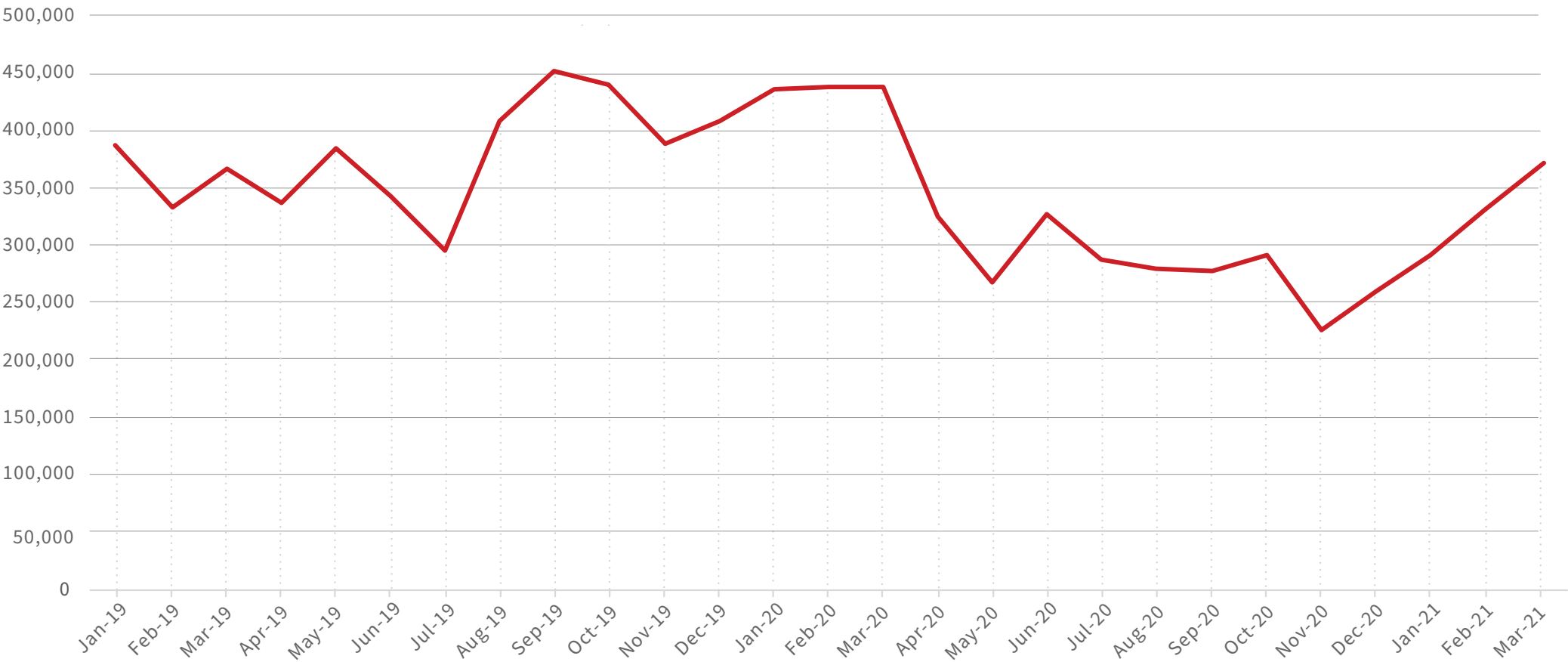
Art Zeile
CEO of Dice (a DHI Group, Inc. brand)





MONTHLY TECH JOB POSTINGS – JANUARY 2019-MARCH 2021

TECH JOB POSTINGS



TECH JOB POSTING
COMPARISONS



- Q1 2021 vs. Q4 2020
▲ 28%
- Mar. 2021 vs. Feb. 2021
▲ 12%
- Q1 2021 vs. Q1 2020
▼ 24%
- Mar. 2021 vs. Mar. 2019
▲ 1%
- Q1 2021 vs. Q1 2019
▼ 9%

1 LOCATION

2 EMPLOYERS

3 OCCUPATIONS

4 SKILLS

1 LOCATION



CITIES

At the city level, the Dice Q1 Tech Job Report shows only slight fluctuation within changes in ranks year-over-year. **Atlanta**, which has long positioned itself as the Silicon Valley of the South, improved its rank by two places to second place – outpacing both Chicago and San Francisco. The city’s top hiring organizations include Deloitte, IBM, Home Depot and Microsoft. However, other tech companies are also expanding their footprint in the city. For example, Google is building out office space and plans on hiring an undetermined number of new employees, while Apple will invest \$25 million in a learning center and business incubator. Such investment suggests that the tech industry believes Atlanta will only continue to grow in the quarters and years to come.

Seattle made a significant leap in its hiring during the quarter, improving its rank by seven places. In Q1, Seattle’s hiring was led primarily by Amazon, with Facebook, Salesforce, Deloitte and Accenture also hiring at high rates. Amazon’s profits surged in 2020, thanks in large part to the continued success of AWS, which powers a substantial portion of the country’s cloud infrastructure; the company is clearly intent on investing a significant portion of that money into the talent that will allow it to fend off existing and emerging competitors in a variety of industries. For more on Seattle, check out our [Q1 Tech Hub Highlight on page 11](#).

In Texas, **Austin** and **Dallas** continued to drive the state’s hiring momentum, with both improving year-over-year hiring ranks by one place. In Austin, the top hiring organizations include VMware, Dell, Apple and Facebook. Meanwhile, in Dallas, the top hiring organizations include Deloitte, IBM, Accenture and Goldman Sachs. Lower taxes and operating costs have drawn companies to Texas from established tech hubs, leading to increased demand for tech talent (and, somewhat ironically, increasing the cost of living for technologists who moved there for cheaper real estate).

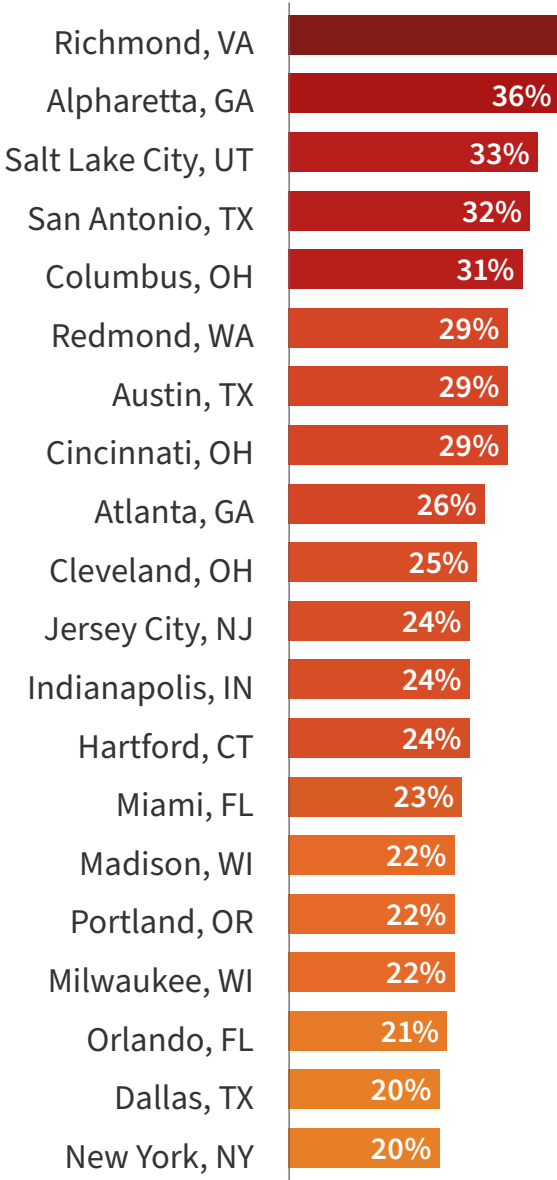
TOP CITIES BY TECH JOB POSTINGS

YEAR-OVER-YEAR CHANGE, Q1 2020 TO Q1 2021

Q1 2021 RANK	CITY	RANK CHANGE	Q1 2021 RANK	CITY	RANK CHANGE
1	New York, NY	– 0	26	Indianapolis, IN	▲ 10
2	Atlanta, GA	▲ 2	27	Portland, OR	▲ 8
3	Chicago, IL	– 0	28	Irving, TX	▼ 2
4	San Francisco, CA	▼ 2	29	Irvine, CA	– 0
5	Washington, DC	▲ 0	30	Miami, FL	▲ 3
6	Seattle, WA	▲ 7	31	Sunnyvale, CA	▼ 3
7	Austin, TX	▲ 1	32	Salt Lake City, UT	▲ 26
8	Los Angeles, CA	▼ 1	33	San Antonio, TX	▼ 8
9	Dallas, TX	▲ 1	34	Richmond, VA	▼ 3
10	Charlotte, NC	▼ 4	35	Cincinnati, OH	▲ 6
11	San Diego, CA	– 0	36	Santa Clara, CA	▲ 6
12	Boston, MA	– 0	37	Nashville, TN	▼ 3
13	Denver, CO	▲ 1	38	Baltimore, MD	▼ 8
14	Houston, TX	▼ 5	39	Detroit, MI	▼ 7
15	San Jose, CA	– 0	40	Alpharetta, GA	▲ 9
16	Phoenix, AZ	– 0	41	Orlando, FL	▼ 2
17	Minneapolis, MN	▲ 1	42	Milwaukee, WI	▼ 2
18	Raleigh, NC	▲ 3	43	Madison, WI	▲ 9
19	Philadelphia, PA	▼ 2	44	Colorado Springs, CO	▲ 6
20	Tampa, FL	▲ 3	45	Jersey City, NJ	– 0
21	Columbus, OH	▼ 2	46	Jacksonville, FL	▼ 9
22	Saint Louis, MO	– 0	47	Durham, NC	▼ 4
23	Arlington, VA	▲ 1	48	Huntsville, AL	▲ 7
24	Plano, TX	▲ 1	49	Hartford, CT	▲ 14
25	Pittsburgh, PA	▲ 1	50	Sacramento, CA	▼ 2



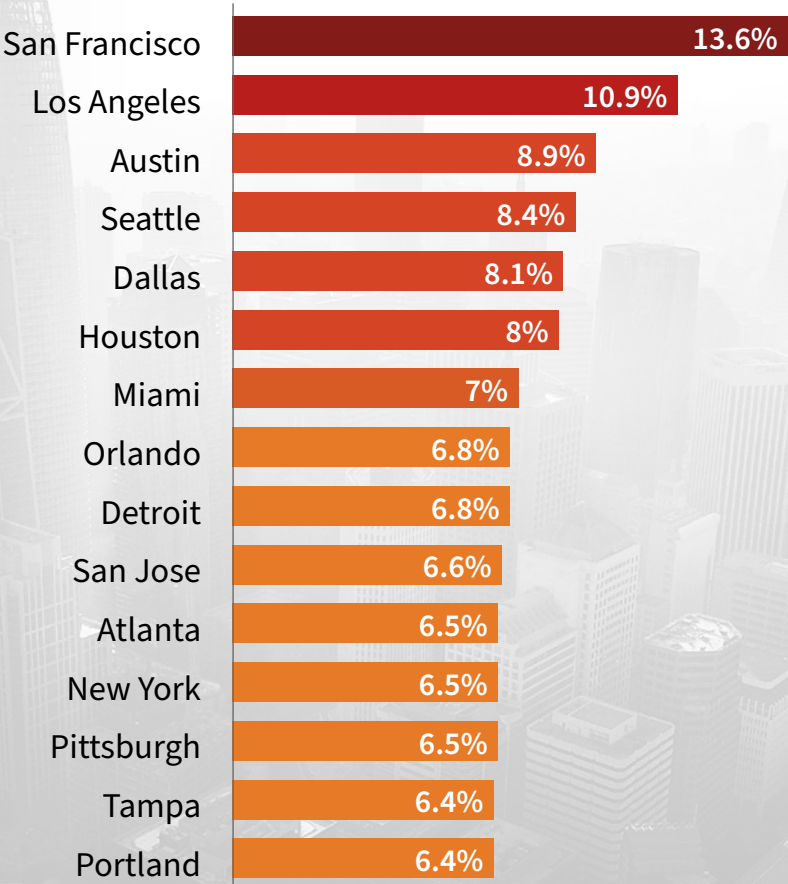
JOB POSTING GROWTH RATE FROM FEBRUARY TO MARCH



When comparing February to March, **Richmond** led U.S. cities with 68 percent growth in job postings. In Richmond, the top hiring organizations include CarMax, Facebook and Capital One. **Redmond** increased job postings by 29 percent between February and March, with employers such as Microsoft, Amazon, Facebook and SpaceX posting a significant number of job postings in March.

While it has not historically been known as a technology hub, **Salt Lake City** has begun to attract technologists who are migrating from larger tech hubs with higher costs of living; this creates a virtuous cycle, as a rising number of technologists draws in companies that have a need for talent and are ready to hire. Tech giants such as Adobe and eBay have established sizable outposts in the city, in addition to various home-grown startups. Salt Lake City saw an increase of 33 percent in job postings from February to March, with Cerner, Goldman Sachs and Ernst & Young all creating a significant number of job postings.

TOP CITIES BY TECH JOB APPLY RATE*



Using tech job application data from our partner Appcast, the apply rate data* highlights the tech hubs with the highest average apply rates in the Q1.

Awareness and reputation appear to contribute to a high apply rate, as top rankings are dominated by large and established tech hubs. California and Texas are the clear winners, with San Francisco at the top (apply rate of 13.6 percent). Los Angeles ranks second at 10.9 percent, followed by Austin at 8.9 percent and Seattle at 8.4 percent.

*Apply rate is defined as the percentage of apply clicks that result in a completed application.





Not surprisingly, the top hiring states in the first quarter were all home to either established or emerging tech hubs. **California** easily topped the list with 146,000 job postings. In California, the cities with the most hiring activity (by job posting volume) included San Francisco, Los Angeles, San Diego and San Jose, while the state’s technology strongholds of Silicon Valley and Southern California maintain a thriving ecosystem of cloud-centric companies who profited enormously from increased reliance on their products during the pandemic. Those tech giants, in turn, are using this momentum to hire thousands of technologists with a variety of skills, in states far beyond California.

Texas has long positioned itself to tech organizations as a less expensive, tax-advantaged alternative to California. That seems to have paid off, with a number of prominent tech companies deciding to migrate major facilities to the Lone Star State, including Oracle (which moved its headquarters to Austin), Hewlett-Packard, and Tesla. That migration helped strengthen Austin’s tech ecosystem (and hiring) throughout 2020, encouraging more startups and smaller companies to call the city home. In Q1, hiring was led by Austin, Dallas, Houston and Plano (a Dallas suburb).

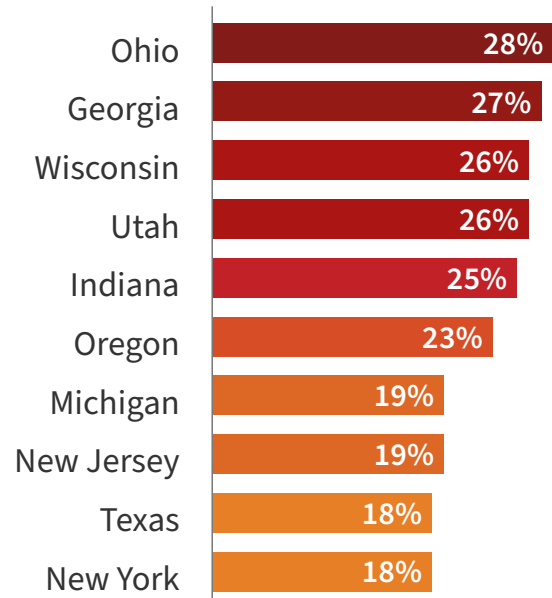
Georgia and **Washington** improved their ranks by two places and three places, respectively. Georgia, which also experienced 15 percent growth between February and March, saw the most hiring activity in Atlanta, Alpharetta and Augusta. Meanwhile, Washington’s hiring activity was driven by Seattle, Bellevue and Redmond, home to tech giants like Amazon and Microsoft who did well in 2020 and are looking to invest heavily in key areas throughout 2021 and beyond.

STATES BY TECH JOB POSTINGS

YEAR-OVER-YEAR CHANGE, Q1 2020 TO Q1 2021

Q1 2021 RANK	STATE	RANK CHANGE	Q1 2021 RANK	STATE	RANK CHANGE
1	California	– 0	27	Alabama	▼ 1
2	Texas	– 0	28	South Carolina	▲ 1
3	New York	▲ 1	29	Iowa	▲ 2
4	Virginia	▼ 1	30	Kentucky	– 0
5	Florida	▲ 1	31	Kansas	▲ 3
6	Illinois	▲ 1	32	Nevada	▼ 4
7	North Carolina	▼ 2	33	Oklahoma	– 0
8	Georgia	▲ 2	34	Nebraska	▲ 2
9	Washington	▲ 3	35	Louisiana	▼ 3
10	Colorado	▲ 3	36	Idaho	▲ 4
11	Massachusetts	▼ 3	37	New Mexico	▲ 2
12	Pennsylvania	▼ 3	38	Arkansas	▲ 3
13	Ohio	▲ 1	39	Delaware	▼ 1
14	New Jersey	▼ 3	40	Rhode Island	▼ 3
15	Arizona	▲ 1	41	Hawaii	▲ 1
16	Maryland	▼ 1	42	New Hampshire	▼ 7
17	Michigan	– 0	43	Mississippi	– 0
18	Minnesota	– 0	44	West Virginia	▲ 2
19	District of Columbia	– 0	45	Alaska	– 0
20	Wisconsin	▲ 1	46	North Dakota	▲ 1
21	Missouri	▼ 1	47	Montana	▲ 1
22	Oregon	▲ 1	48	South Dakota	▲ 1
23	Tennessee	▼ 1	49	Maine	▼ 5
24	Indiana	– 0	50	Vermont	– 0
25	Connecticut	– 0	51	Wyoming	– 0
26	Utah	▲ 1			

JOB POSTING GROWTH RATE FROM FEBRUARY TO MARCH

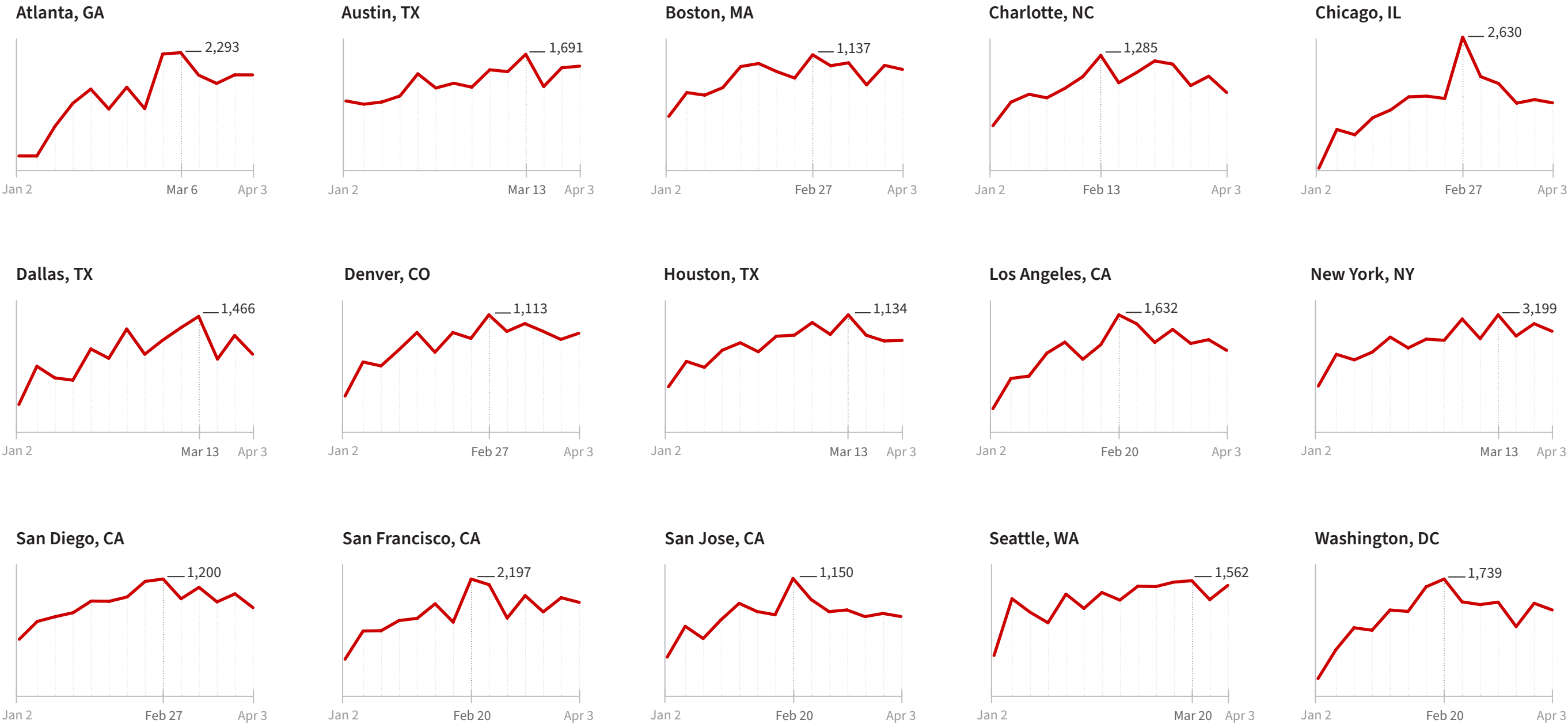


Comparing March to February shows significant growth in **Utah** (26 percent), **Wisconsin** (26 percent) and **Georgia** (27 percent). **Ohio** experienced the most growth (28 percent), with Columbus, Cincinnati and Cleveland leading the hiring activity. For many years, the state has made a concerted effort to draw tech hiring and funding, with initiatives such as Ohio Third Frontier, a multi-billion-dollar startup investment program. These programs often take years to pay dividends, but something seems to be working, with companies such as IBM and Facebook opening offices and data centers in the state.



NEW TECH JOB POSTINGS IN THE TOP 15 CITIES

WEEKLY DATA FROM JANUARY 2, 2021 TO APRIL 3, 2021





Q1 TECH HUB HIGHLIGHT

SEATTLE

THE EMERALD CITY



If Bill Gates and Jeff Bezos hadn't decided to start Microsoft and Amazon in Washington state, the history of Seattle might have looked very different. These tech giants established a foundation of local talent that other companies have relied upon for decades. Google, Facebook, Tableau, and other large firms have also established offices here, and startups have attracted more capital and talent (according to *Pitchbook*, local startups managed to draw more than \$3.2 billion in VC investment in the first three quarters of 2020).

Like other tech hubs across the country, Seattle relies on a network of good schools, incubators, and VC firms to flow talent and money to companies with promising business models. Nearby Redmond is home to Microsoft, and Amazon has a substantial presence in nearby Bellevue (along with Valve and other tech companies). Within Seattle, a number of tech companies, including Google and Adobe Systems, call the Fremont neighborhood (known for its counter-cultural vibe and self-proclaimed moniker “The Center of the Universe”) home.



OVERVIEW

Population: 776,555¹

Size: 83.78 sq mi¹



HIRING TRENDS

Q1 Rank: 6th

YoY Growth: +4 percent

Feb/March Growth:
+16 percent

Top Hiring Organizations (Q1):
Amazon, Facebook,
Salesforce, Deloitte, Uber

Top Occupations (Q1):

Software Developer,
Senior Software Developer,
Program Manager, Product
Manager, Network Engineer

Average Tech Salary:
\$106,723²



WHAT'S IT LIKE TO LIVE IN THE EMERALD CITY?

Median Home Cost: \$714,400³

Average Rent (One BR Apt.): \$1,728³

Universities: University of
Washington, Seattle University,
Seattle Pacific University



NEIGHBORHOOD SPOTLIGHT: THE CENTRAL DISTRICT

The Central District may have changed over the years, but the soul of this historically Black community is still vibrant in its locally-owned restaurants such as the Garfield Community Center and Fat's Chicken and Waffles. In the first instance you'll likely venture into this district, only 2mi (3km) from downtown, to scope out the former homes of Bruce Lee and Jimi Hendrix. No trip into the Central District is complete without checking out the magnificent MLK mural and other art depicting African American history around the Douglass-Truth Public Library. –Via [CultureTrip.com](https://www.culturetrip.com)

¹ <https://worldpopulationreview.com/us-cities/seattle-wa-population>

² Dice 2021 Tech Salary Report

³ https://www.bestplaces.net/cost_of_living/city/washington/seattle

2 EMPLOYERS



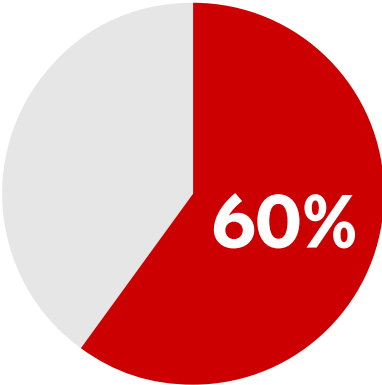
EMPLOYERS

Unlike previous editions of Dice’s Tech Job Report, where defense contractors and consulting firms have tended to dominate the technologist hiring landscape, Q1 data featured a high volume of tech postings from employers in sectors as diverse as ridesharing, e-commerce and entertainment. Increasing confidence in an imminent economic recovery seems to be translating into a widespread hunger for talent across a variety of industries and verticals; of the top fifty hiring organizations thus far into 2021, 60 percent are hiring more than in pre-pandemic Q1 2020.

EMPLOYER RANK IN Q1 BY JOB POSTING VOLUME

- | | |
|------------------------|------------------------------|
| 1 Amazon | 6 Northrop Grumman |
| 2 Uber | 7 Booz Allen Hamilton |
| 3 Infosys | 8 Cisco |
| 4 Raytheon | 9 HCL Technologies |
| 5 Ramy Infotech | 10 General Dynamics |

- | | |
|-------------------------------------|---------------------------------------|
| 11 Google | 31 Charles Schwab |
| 12 WarnerMedia | 32 AMD |
| 13 Jacobs Engineering Group | 33 Disney |
| 14 Automatic Data Processing | 34 Anthem Blue Cross |
| 15 CACI | 35 IBM |
| 16 Nvidia Corporation | 36 Wipro |
| 17 Capgemini | 37 Johnson Controls |
| 18 Lockheed Martin | 38 Boeing |
| 19 Veeva Systems | 39 NTT Data |
| 20 T-Mobile | 40 Fiserv |
| 21 Charter Communications | 41 Splunk |
| 22 Workday | 42 Home Depot |
| 23 Leidos | 43 Parsons Infrastructure |
| 24 Health Care Service | 44 Paypal |
| 25 Jones Lang Lasalle | 45 IQVIA |
| 26 Capital One | 46 The Bank of New York Mellon |
| 27 Dell | 47 Adobe Systems |
| 28 Goldman Sachs | 48 Crowe Global |
| 29 nSys Design Systems | 49 Thermo Fisher Scientific |
| 30 Virtusa | 50 CDW Corporation |

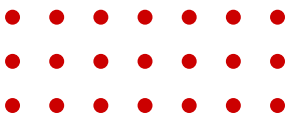


of top Q1 2021 employers increased their hiring compared to Q1 2020

Amazon topped the list of employers that were looking to hire for tech roles in Q1. Amazon’s businesses thrived during the pandemic. Businesses turned to AWS for their cloud-computing needs, and consumers needed more packages delivered once stores began to shut down. With this momentum, Amazon has solidified its leadership positions in everything from the cloud to consumer hardware, adding to demand for Network Engineers, Data Architects, UX Researchers and Data Engineers.

Early in the pandemic, **Uber** (ranked 2nd) laid off thousands of workers as its ride-sharing business suffered from lockdowns and virus fears. Over the past several months, however, the company has retooled its strategy, selling off or winding down unprofitable side projects and focusing more resources on Uber Eats, its food-delivery service. This strategic re-adjustment requires tech talent, and Uber has begun hiring again in significant numbers. The company’s top hiring targets include Senior Software Developers, Performance Engineers, iOS Developers and Senior Data Scientists.





WarnerMedia (ranked 12th) has undergone a similar journey. Throughout 2020, the pandemic had a heavy impact on the company’s entertainment business, particularly theatrical movies. In October, WarnerMedia announced plans to slice its costs by 20 percent. Its comeback strategy now centers on HBO Max, a rival service to Netflix and Disney+, and the company has been hiring technologists to ensure its streaming infrastructure can effectively serve millions of users. These programs, combined with the company’s other digitization initiatives, have driven a hiring boost for roles such as Software Developer, QA Engineer, Systems Engineer and Video Game Designer.

Nvidia (ranked 16th) made big, long-term bets on GPUs and processors for data centers. Over the past few years, those bets have paid off. Bitcoin miners and other cryptocurrency fans turned to GPUs to mine currency, while many data centers made the move to rely on Nvidia’s technology. By mid-2020, Nvidia’s market capitalization had surpassed that of Intel, which not only failed to develop a popular product for the mobile-device market, but now faces the daunting prospect of former clients (most notably Apple with its M1 chip) manufacturing their own processors in-house. As it continues to expand, Nvidia’s top posted occupations in Q1 included Program Manager, Hardware Design Engineer and Systems Architect.

PayPal (ranked 44th) also created a significant number of tech job postings in Q1. Although it faces competition from a variety of fintech startups, PayPal’s strong branding as an e-commerce giant allowed it to not only prosper, but expand into new areas such as cryptocurrency payments. The company’s strategy has seemingly paid off; it now has a market cap of \$275 billion, nearing the value of Bank of America. In Q1, the top occupations PayPal was hiring for included Product Manager, Data Analyst, UX Designer and Cybersecurity Engineer.

3 OCCUPATIONS



OCCUPATIONS

After several quarters of uncertainty, the development of effective COVID-19 vaccines, combined with federal stimulus spending, has helped some businesses regain the confidence to move out of survival mode and into longer-term planning centered around innovation and transformation. This may be one explanation for the five-rank improvement for **Program Managers**, who are hired to spearhead the new initiatives designed to put companies on a track for increased growth and profitability.

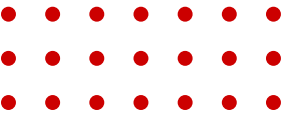
Similarly, **Product Managers** will also be brought onboard to coordinate the development and delivery of innovative new projects and services – as a result, Product Managers saw a surge in job postings, improving by 17 slots to 14th place. Product Managers’ roles will only grow more complex as they attempt to manage widely dispersed teams, thanks to companies embracing a mix of permanent remote, in-office and “flexible” work models. Some of the top organizations looking to hire Product Managers in the first quarter include Amazon, Facebook, Uber and KPMG.

TOP TECH OCCUPATIONS BY JOB POSTINGS IN Q1 YEAR-OVER-YEAR CHANGE, Q1 2020 TO Q1 2021

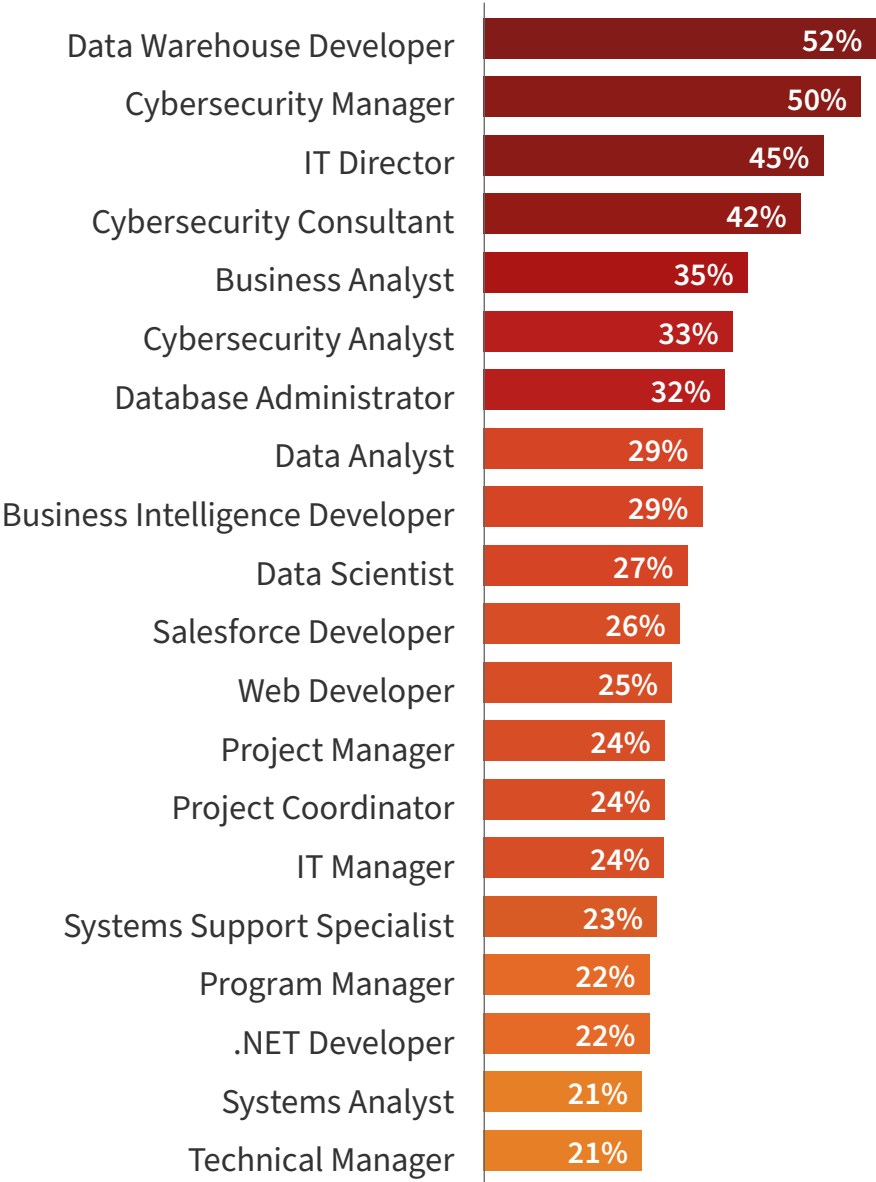
Q1 2021 RANK	OCCUPATION	RANK CHANGE	Q1 2021 RANK	OCCUPATION	RANK CHANGE
1	Software Developer	– 0	26	Technical Project Manager	▲ 9
2	Project Manager	– 0	27	Technical Consultant	▲ 1
3	Network Engineer	– 0	28	Devops Engineer	▼ 9
4	Senior Software Developer	▲ 1	29	Data Engineer	▲ 4
5	Systems Engineer	▼ 1	30	Database Administrator	▼ 7
6	Program Manager	▲ 5	31	Senior Java Developer	▼ 1
7	Business Analyst	▼ 1	32	Systems Analyst	– 0
8	IT Project Manager	– 0	33	Application Support Engineer	▼ 7
9	Software QA Engineer	– 0	34	Data Scientist	▲ 8
10	Application Developer	– 0	35	Salesforce Developer	▼ 1
11	Computer Support Specialist	▲ 1	36	Technical Manager	– 0
12	Senior Business Analyst	▲ 1	37	.NET Developer	▼ 16
13	Java Developer	▼ 6	38	Cybersecurity Analyst	– 0
14	Product Manager	▲ 17	39	IT Director	▲ 16
15	Cybersecurity Engineer	– 0	40	Systems Support Specialist	▲ 1
16	Data Analyst	▲ 4	41	Program Analyst	▼ 1
17	Technical Support Engineer	▲ 7	42	Software Development Manager	▲ 14
18	Systems Administrator	▼ 2	43	Senior Project Manager	▼ 4
19	Help Desk Technician	▼ 1	44	IT Manager	▲ 1
20	Project Coordinator	▲ 2	45	Back End Developer	▼ 1
21	Business Consultant	▲ 6	46	Cybersecurity Consultant	▲ 1
22	Business Intelligence Analyst	▲ 7	47	Web Developer	▼ 10
23	Computer Programmer	▼ 9	48	User Experience Designer	▼ 2
24	Graphic Designer	▼ 7	49	Cybersecurity Manager	▲ 1
25	Front End Developer	– 0	50	Business Intelligence Developer	▼ 7

The increase in the rank of **Business Consultants** in Q1 (ranked 21st, improved by six) tells us that many organizations are choosing to place their bets on the highly specialized knowledge a third-party strategic resource can bring to the table. Consultants have the added benefit of extreme subject-matter expertise, whether in cybersecurity, infrastructure, or marketing. Plus, consultants are a variable cost, and often employed for relatively short periods of time, unlike full-time employees.

At the lowest point of the pandemic, companies were forced to downsize teams, reduce hiring, and, in some cases, radically restructure their business model in order to survive. As rising optimism leads these companies to look toward building for the future, they’ve begun hiring technologists again in considerable numbers. **Technical Support Engineers** (ranked 17th, improving by seven slots) as well as **Data Scientists** (ranked 34th, improving by six slots), have been just a few of the beneficiaries of this trend.

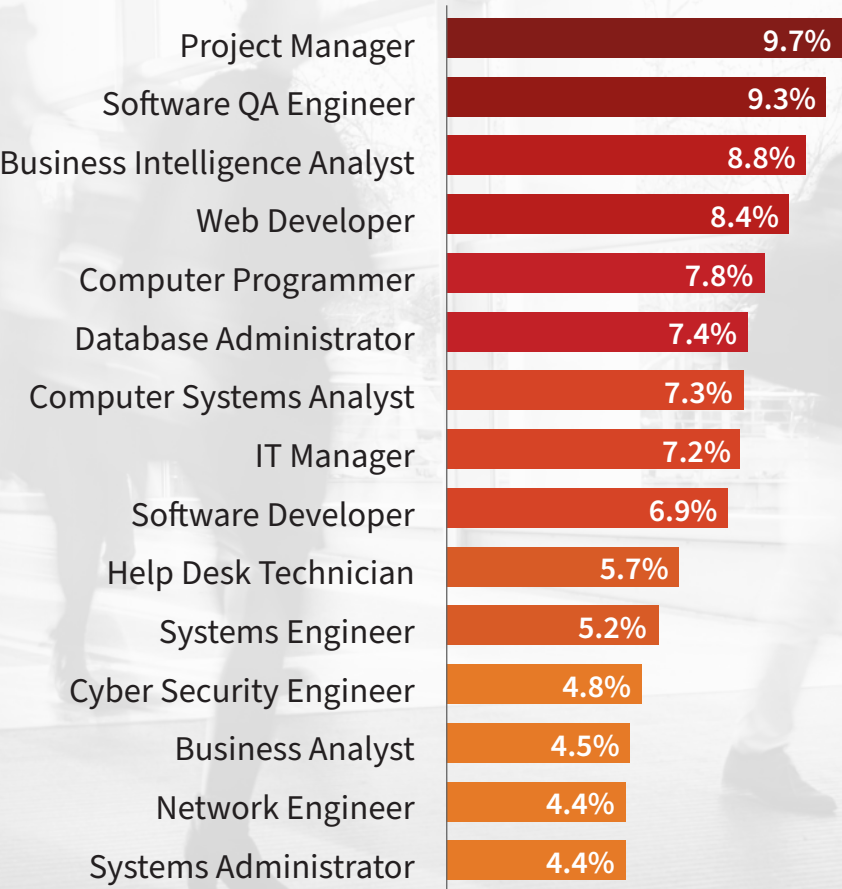


JOB POSTING GROWTH RATE FROM FEBRUARY TO MARCH



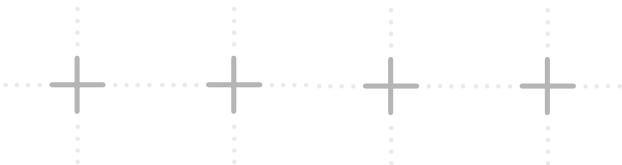
Between February and March, some of the fastest-growing technologist roles in terms of job postings included **Data Warehouse Developers** (52% increase month-over-month), **Cybersecurity Managers** (50% increase month-over-month), and **IT Directors** (45% increase month-over-month). As businesses enact their long-gestating plans to return to the office, they'll need specialists in all three of these roles to ensure that data is structured correctly, that remote and on-premises workers' IT setups are secure, and that the IT infrastructure is prepared for whatever the future will bring. In addition, IT Directors will be responsible for assembling and managing the teams that will ensure this complicated work is done both quickly and properly.

TOP OCCUPATIONS BY TECH JOB APPLY RATE*



Utilizing tech job application data from our partner Appcast, the apply rate data* highlights the tech occupations with the highest apply rates in Q1. IT Project Manager ranks first with an average Q1 apply rate of 9.7 percent. This comes in addition to ranking eighth in overall job postings in Q1. Software QA Engineer ranks second with an apply rate of 9.3 percent, and Business Intelligence Analyst ranks third with an apply rate of 8.8 percent.

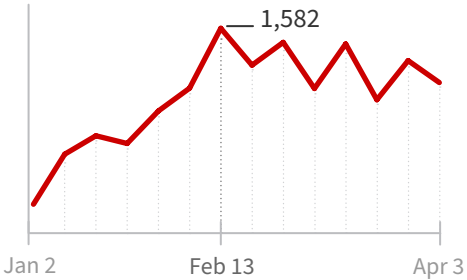
*Apply rate is defined as the percentage of apply clicks that result in a completed application.



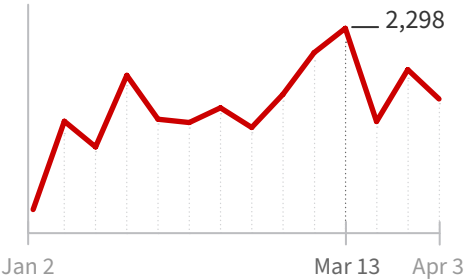
NEW TECH JOB POSTINGS FOR THE TOP 15 OCCUPATIONS IN Q1

WEEKLY DATA FROM JANUARY 2, 2021 TO APRIL 3, 2021

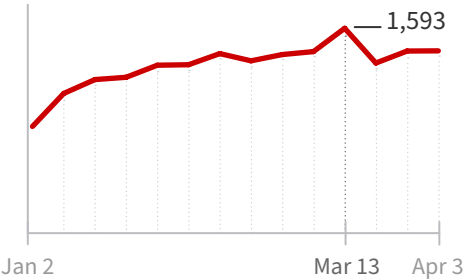
Application Developer



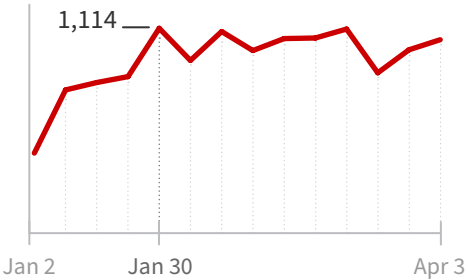
Business Analyst



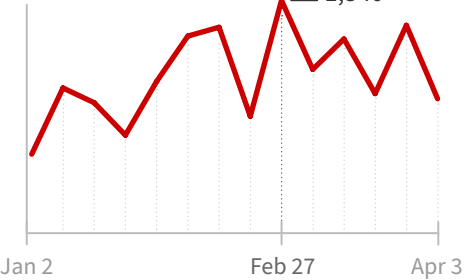
Computer Support Specialist



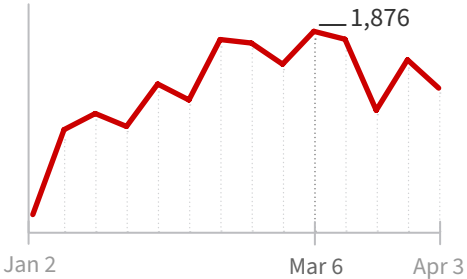
Cybersecurity Engineer



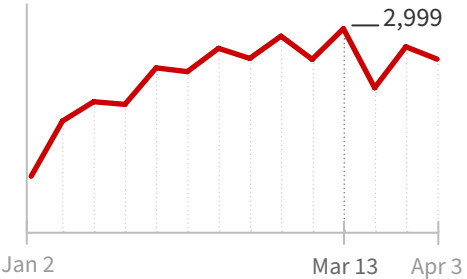
Java Developer



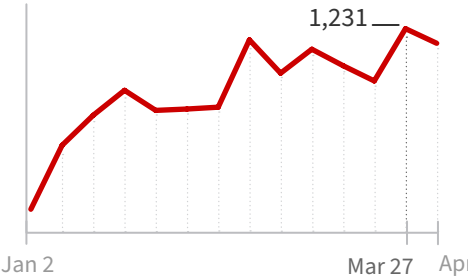
IT Project Manager



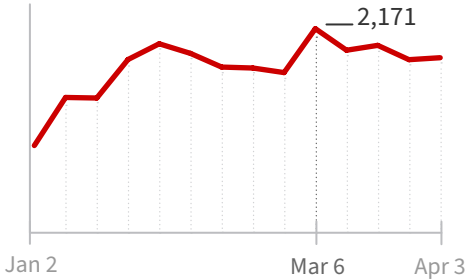
Network Engineer



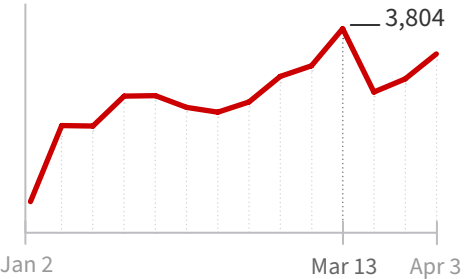
Product Manager



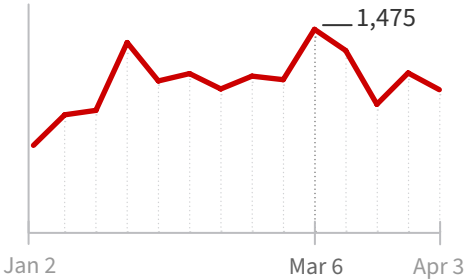
Program Manager



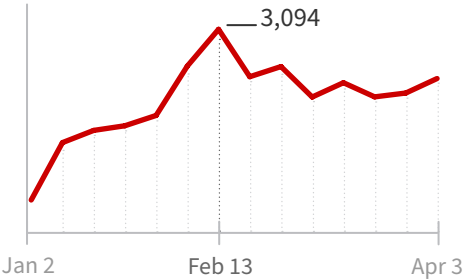
Project Manager



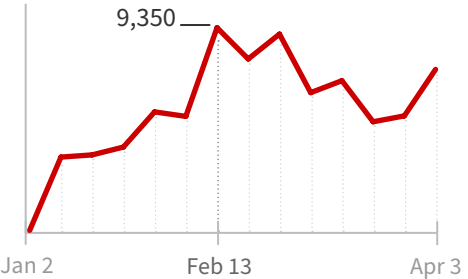
Senior Business Analyst



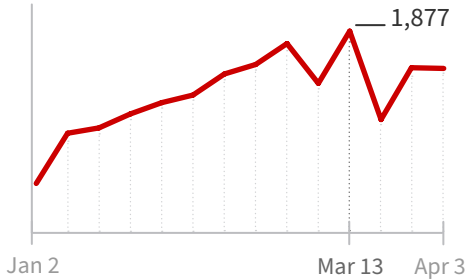
Senior Software Developer



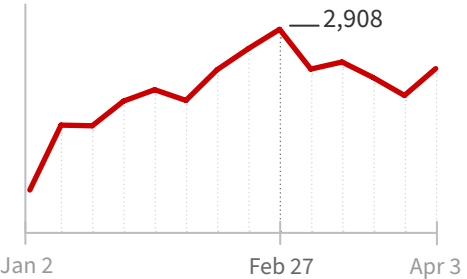
Software Developer



Software QA Engineer



Systems Engineer



4 SKILLS





The COVID-19 pandemic made it clear that specialized technologists with cutting-edge skills can have a marked impact on short-term organizational success and even longer-term outlooks in times of crisis. From machine learning and A.I. to web development, technologists’ skill levels can determine whether products and services hit the market or become costly sinkholes—and that, in turn, can determine whether businesses survive amidst fierce rivalries and shifting demand. Regardless of the industry, both the traditional and cutting-edge technologies underpinning the operations of businesses and organizations (and the employees who’ve mastered them) have proven to be impactful enough to be key determinants in future viability.

Over the past few years, **DevOps** (ranked 11th, improved by four) has remained a high-paying and in-demand skill, and with good reason: economic circumstances notwithstanding, companies will always need technologists who are well-versed in how to drive continuous delivery and high product quality, and how to optimize the product lifecycle. As we move beyond the worst of the pandemic, many corporate budgets remain tight, increasing the need for DevOps specialists who can deliver results in a streamlined and cost-efficient manner. In addition, technologists of all backgrounds might find themselves asked to utilize some aspect of DevOps in order to move projects forward; mastering this skillset can translate into professional security.

TOP TECH SKILLS BY JOB POSTINGS IN Q1
YEAR-OVER-YEAR CHANGE, Q1 2020 TO Q1 2021

Q1 2021 RANK	SKILL	RANK CHANGE	Q1 2021 RANK	SKILL	RANK CHANGE
1	Project Management	▲ 1	26	Technical Writing / Editing	▲ 12
2	SQL	▼ 1	27	SQL Server	▼ 7
3	Java	– 0	28	Debugging	▲ 11
4	Python	▲ 1	29	Data Science	▲ 36
5	JavaScript	▼ 1	30	Stakeholder Management	▲ 23
6	Linux	– 0	31	Kubernetes	▲ 36
7	Technical Support	▲ 2	32	.NET	▼ 13
8	Business Process	– 0	33	SDLC	▼ 4
9	Scrum	▲ 1	34	UNIX	▼ 12
10	Quality Assurance and Control	▲ 1	35	Salesforce	▲ 16
11	DevOps	▲ 4	36	Information Security	▲ 1
12	Information Systems	▲ 1	37	Machine Learning	▲ 44
13	Oracle	▼ 6	38	Unit Testing	▼ 10
14	Microsoft C#	– 0	39	Process Improvement	▲ 6
15	Product Management	▲ 16	40	Relational Databases	▼ 7
16	Git	▼ 4	41	Microsoft Azure	▲ 17
17	Data Analysis	▲ 1	42	SAP	▼ 17
18	Project Planning and Development	▼ 2	43	Data Management	▲ 6
19	Business Analysis	▼ 2	44	ETL	▼ 4
20	C++	▲ 3	45	System Administration	▼ 9
21	Atlassian JIRA	▲ 3	46	Web Application Development	▼ 2
22	Agile Development	▼ 1	47	OOAD	▼ 5
23	Product Development	▲ 11	48	Software as a Service	▲ 42
24	Change Management	▲ 3	49	Microsoft Active Directory	▼ 6
25	Systems Engineering	▲ 1	50	Data Warehousing	▲ 2



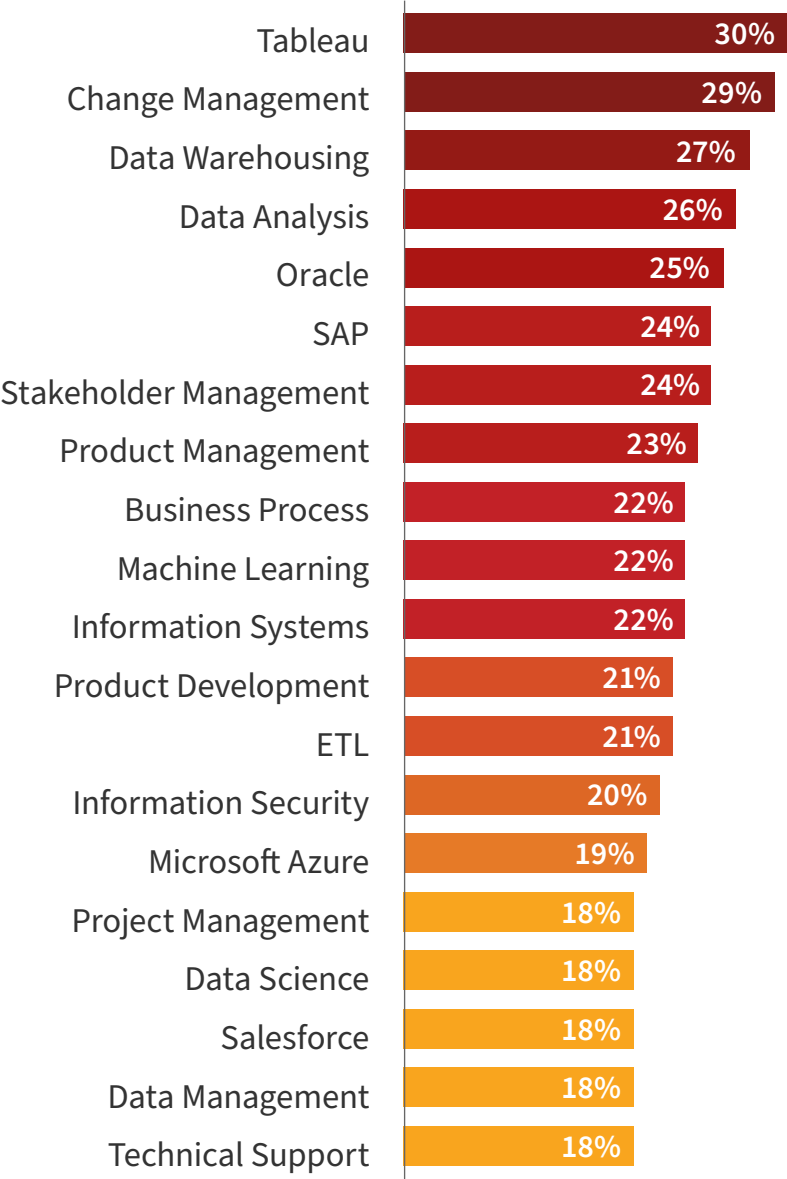
In addition to DevOps (which saw 67,000 job postings) and **product management** (57,000 job postings), companies across the spectrum are searching for skilled technologists who have mastered **machine learning** (ranked 37th, improved by 44) and **Kubernetes** (ranked 31st, improved by 36), both of which are skills that could cumulatively mean the difference between success and failure for many teams.

Over the past few years, companies have invested more resources in machine learning, with the aim of making apps and services “smarter.” For data scientists, machine learning and A.I. specialists, and software developers (depending on their specialization), knowing the intricacies of machine learning is an increasingly important part of their overall workflows. Meanwhile, Kubernetes helps Systems Administrators, developers, DevOps engineers, and other technologists automate many of the processes around the containerized

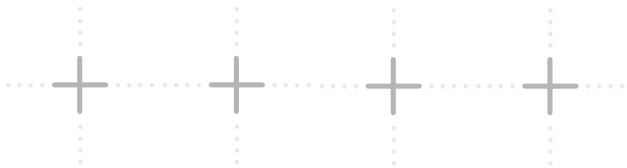
applications that are often mission-critical. Without these skills, companies risk falling behind rivals who are iterating and evolving faster than ever.

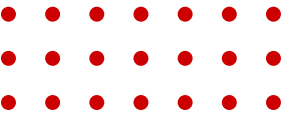
The past quarter also saw a rise in the number of jobs demanding **Microsoft Azure** (ranked 41st, improved by 17). Although Amazon Web Services (AWS) has long dominated the cloud-computing market, the popular perception is that Microsoft has managed to gain marketplace ground over the past year. Given that many companies have already had Microsoft-centric tech stacks for many years, perhaps it’s no surprise that there’s an accompanying need for Azure skills (Microsoft also argues that GitHub, the massive code repository it purchased in 2018 for \$7.5 billion, increases Azure adoption by exposing developers and companies to new examples of successful Azure-based deployments).

JOB POSTING GROWTH RATE FROM FEBRUARY TO MARCH



On a month-over-month basis, **Tableau**, a data visualization tool, enjoyed notable 30 percent growth. **Change management** (29 percent) and **data warehousing** (27 percent) also experienced significant increases. This dovetails neatly with the demand for data scientists and consultants, who rely on tools like Tableau and data-warehousing best practices in order to draw the information they need from the company’s datasets, before transforming those learnings into organizational change.





METHODOLOGY

Job Posting Data – Provided by Burning Glass Technologies

To gather these insights, job posting data was provided by Dice’s partner, Burning Glass Technologies, which has a database of more than 1 billion current and historical job postings worldwide. Dice analyzed over 1.5 million tech job postings in the U.S. To gather our specific dataset, we filtered for “Information Technology” jobs with hours that fall under “Full Time,” “Part Time” and “Not Listed,” as well as job types that are categorized as “Permanent,” or “Not Listed.” The datasets used for the “Employers” section were gathered by using the above criteria, with an additional filter for job postings that only derive from employer sites.

Apply Rate Data - Provided by Appcast




These insights are based on candidate application data provided by Dice’s partner, Appcast, the leading provider of programmatic recruitment advertising technology. Since 2014, Appcast has powered 610 million job postings, generated 7.4 billion ad clicks, and managed \$600 million of ad spend. To gather this specific dataset, Appcast analyzed jobs posted from January 1, 2021 through March 31, 2021. It limited the data to jobs that a candidate would be directed to apply to on an employer’s applicant tracking system (ATS) and to job functions and job titles that fall under the classification of Technology. Titles were normalized prior to classification. Any location-based data is inclusive of a standard commutable metro region. The total apply rate calculates the number of clicks – regardless of whether the click was paid for, unpaid or organic – that it took to produce an application on an ATS for a given job.



NOW THAT YOU'RE UP-TO-DATE ON THE STATE OF TECH HIRING, IT'S TIME TO USE THESE INSIGHTS TO DISCOVER AND CONNECT WITH TOP TECH TALENT.

Dice can help!

Connecting you with the skilled technologists who provide the best possible fit for your most important roles is our passion. The following are just a few of the ways we can help you get in front of game-changing tech professionals:

-  **POST YOUR JOBS** – Whether you have one job you’re focusing on or you need to post in bulk, we’ve got you covered. Promote your posts on Dice and gain exposure to 1.5 million monthly tech professional visitors. We’ll also cross-promote your jobs on sites where technologists are most active.
-  **AMPLIFY YOUR PRESENCE** – Whether it’s boosting your posts for maximum effect, building your brand as an employer through Dice solutions or participating in our Virtual Career Events, there are so many opportunities to get yourself out there in a big way.
-  **LET US SHARE THE LOAD** – Our Sourcing Services program is designed to take the sourcing and screening work off of your plate, allowing you to focus your time and energy on the things that only you can do.

Contact Us Today

If you’d rather reach us by phone, call us at **1.800.979.DICE (3423)**.

ABOUT DICE

Dice is a leading tech career hub connecting employers with skilled technology professionals and providing tech professionals with career opportunities, data, insights and advice. Established in 1990, Dice began as one of the first career sites and today provides a comprehensive suite of recruiting solutions, empowering companies and recruiters to make informed hiring decisions. Dice serves multiple markets throughout North America.



Dice is a [DHI Group, Inc.](#) (NYSE:DHX) service.

