TECH SALARY
GUIDE 2022

For Employers and Candidates

UNITED STATES

MOTION
RECRUITMENT

The State of
TECH EMPLOYMENT

When it comes to compensation, the context of the employment market around us is almost as important as the predicted salaries for 2022. Considering not only how much salaries are, but why, is key for how to get ahead and stay ahead in the fast-paced world of tech...and you can't talk about the future of work without talking about the effects of the past two years.

The tech talent market has continually thrived under the pressure and challenges brought on by the pandemic—bolstered by the urgency of digital transformation and innovation—and subsequently, demand is at an all-time high. The agility of the workforce has led to increasing pressure on employers to meet in the middle as a new world of opportunities opens up to their IT workers.

Some of these extenuating factors have created a completely new dynamic for job seekers and hiring managers alike. We hope the market insights here will help guide you on your journey towards the most appealing compensation and work environment, for yourself or your teams.

Matt Milano
President,
Motion Recruitment

MOTIONRECRUITMENT.COM

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The State of Tech Employment

# What is the immediate impact on salaries with the recent challenges/changes brought on by 2020 and 2021?
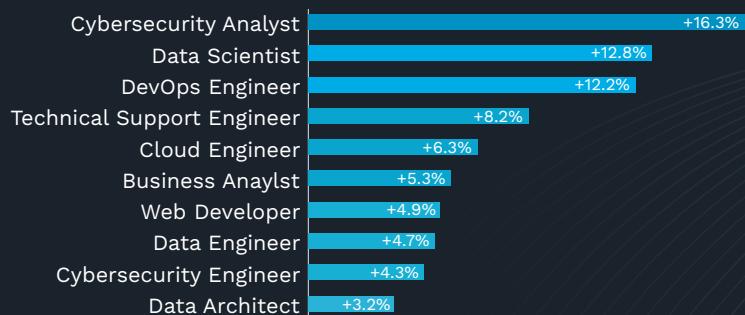
The IT job market has experienced growth unlike other industries, at 4.79 million US tech-sector jobs in 2021, it has exceeded its all-time peak of 4.76 million from March 2020 before the pandemic hit. The number of IT jobs on the market has increased every month in 2021, even doubling by August.

Following the hiring freezes of 2020, product innovation, digital transformation and rapid growth in the industry has prompted a surge of tech job openings in 2021; this has meant unparalleled demand and competition for talent both on the market and off. While tech adoption and expansion has spiked demand, only 40% of companies hired tech staff last year, but 66% plan to add more by the end of 2021. With the ongoing Delta variant concerns, the need for more secure remote work environments and digital channel expansion, like telehealth and curbside grocery pickup, continues to inflate salaries for the most in-demand tech skillsets.

In 2021, tech salaries rose globally by 6.2% on average, with 4 out of 10 IT employees seeing an increase in compensation even during a rollercoaster of a year. In addition to industry increases, many tech workers have seen their salary go further in the remote world by moving to less expensive cities, saving up to 24% of their rent money and up to $11,000 per year in commuting costs by working from home.

In 2021, tech salaries rose by 6.2% on average, with 4/10 IT employees seeing an increase in compensation even during a rollercoaster of a year.

Fastest Growing Salaries by Occupation

Occupation	Growth
Cybersecurity Analyst	+16.3%
Data Scientist	+12.8%
DevOps Engineer	+12.2%
Technical Support Engineer	+8.2%
Cloud Engineer	+6.3%
Business Anaylst	+5.3%
Web Developer	+4.9%
Data Engineer	+4.7%
Cybersecurity Engineer	+4.3%
Data Architect	+3.2%

Source: Dice 2021 Tech Job Report

Furthermore, location has played one of its biggest roles ever in compensation and will continue to for the forseable future. In 2020, salaries among some historically popular tech hubs like Boston and Silicon Valley saw more regular increases like 5-6%, while salaries shot up by more than 13% in smaller hubs like Charlotte (13.8%) and Orlando (13.4%) as these cities became more attractive in a remote environment. (Salaries based off where employees are working from)

Total Compensation Considerations:
Sign on Bonuses

Companies are getting creative with offers; with one study finding sign on bonuses have increased by 454% year-over-year, up-front payments are becoming a popular way to attract candidates. However for some, simply transitioning into 100% remote roles, having childcare or working from home itself are the bonuses.

Despite the majority of tech compensation potential increasing overall, workers that leave expensive tech hubs could face up to a 25% pay cut. No longer bound by the cost of living in expensive meccas of technology, top-paying companies such as Twitter, VMWare and now Google are willing to let employees stay remote – but sometimes at a decreased salary. However, with more options than ever open to them, for IT candidates facing this situation or not, they are still expecting to see an increase of at least 15% when jumping into a new role.

64%
of the work-force is actively searching for a new job.

While the biggest reason for the job search for many is a better salary, according to the 64% of the workforce searching for a new job, the rise of remote – with 357% increase in remote job posts on Linkedin by Q3 of 2021 – cannot be ignored as well. With 39% of employees considering quitting their job if forced to go back to the office full time, the impact of remote work on salaries cannot be denied – but many companies are still unsure how to handle it and workers are uncertain of the future in it.

The FUTURE of Work

The Inescapable Evolution of The (Hybrid) Workplace

The tech world seems to be re-imagining how work gets done, whether it's getting away from a typical 5-day work week or realizing that hybrid work is becoming a longer-term transformation.

Since 2020, the remote workplace has become a necessity, sometimes a mandate, for companies around the world. As parts of the world open, the debate on bringing employees back to the office has been at the forefront of many managers' minds. The companies that have been most successful in navigating this issue have been the ones that have listened to their employees, given them the flexibility to choose the workspace right for them and trusted them to remain productive no matter where they work. However, the hybrid workplace is a long-term transformation that is evolving into remote, hybrid, and work near home options.

Not a One-Size-Fits-All Approach

75%+

Over 75% of workers prefer working at least one day a week from home. A Q2 survey shows that 59% want to stay remote or hybrid – as opposed to only 17% preferring a return to office.

2 Days

Once it is considered safe to do so, the median office worker will ideally want to work 2 days a week at the office.

2/3

Despite enjoying the benefits of remote work, 2/3 of remote employees see the benefit of in-person interactions to help further their careers.

Employers

How to adjust for long term success in any work environment

☑ **Be Flexible:** With industry leaders like Facebook giving employees the opportunity to work remote full time or come into the office 50% of the time, tech workers are looking for companies that allow them to choose what workspace is right for them.

☑ **Trust your Employees:** Micromanagement can destroy the goodwill of even the most dedicated employee. For example, one candidate relayed his team forced remote employees to be on camera the entire time they were on the clock. If employees choose to work from home, create a remote culture that fosters confidence that you trust your team and sets manageable deadlines.

☑ **Out of Sight Does Not Mean Out of Mind:** Managers need to engage with their employees no matter where they are working, providing feedback, encouragement and opportunities to grow employees' skillset.

☑ **Build a Sustainable Remote Culture:** Without a shared office space to congregate, establishing a company culture that incorporates the needs of a remote workforce is key. If feasible, run in-person team building sessions that promote employee interactions, and ensure workers have clear paths to career growth that you regularly discuss with them.

Candidates

How workers can create their best possible work environment

☑ **Expectation Setting:** Employees and managers need to be on the same page with what expectations are while working remotely. Hours, deadlines, and even the number of video check-ins are all things that should be discussed when starting a remote environment.

☑ **Proactive Engagement:** Company engagement goes both ways. If working remotely, make sure to stay involved and communicate with the rest of your team. If working at the office, keep remote co-workers in the loop.

☑ **Set Boundaries:** Working remotely, the difference between on/off hours can get blurred, which can lead to burnout. Put set work hours in place and avoid doing household chores and similar things during those hours, then log off and put your work to the side when the day is done.

Conclusion: In a short amount of time, a flexible or hybrid work model has become one of the biggest things candidates are looking for when searching for job opportunities, with the companies listening to employees and embracing change being rewarded with increased productivity and a more diverse workforce; alternatively, companies being stubborn and inflexible in their plans are at the forefront of having to deal with The Great Resignation of 2021.

The State of
TECH EMPLOYMENT
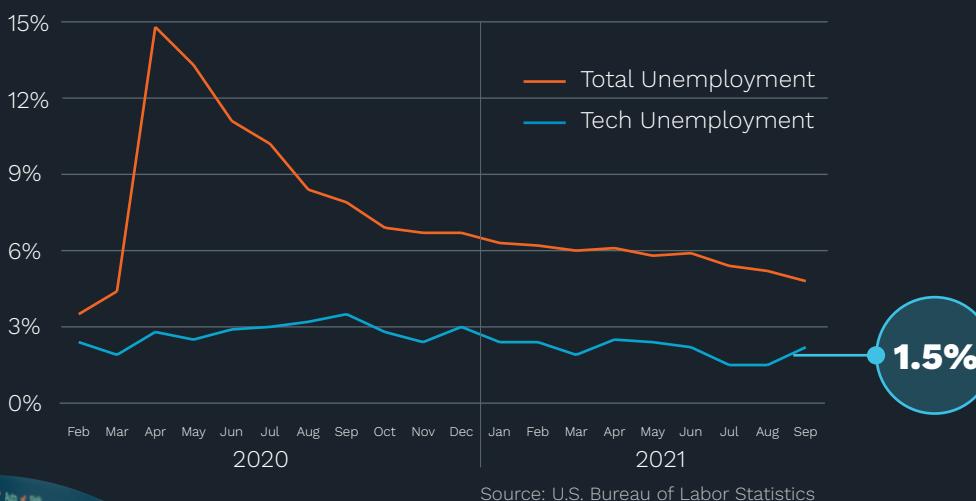
What impact does the continued tech talent shortage have on the workplace?

With a tech talent gap of 70% by the end of 2020, it's no surprise that IT candidates are driving the current market. By 2026, the Bureau of Labor Statistics estimates that the shortage of technical talent will exceed 1.2M. Tech professionals have been bombarded by those in need of talent, and with unemployment for developers below 2%, this will only continue to increase in 2022, particularly for specialized technology skill sets.

61% of HR professionals believe their biggest recruitment challenge is finding qualified developers.

Unemployment Rate Trending

Legend: Total Unemployment, Tech Unemployment

1.5% August 2021 Tech Unemployment Rate

Source: U.S. Bureau of Labor Statistics
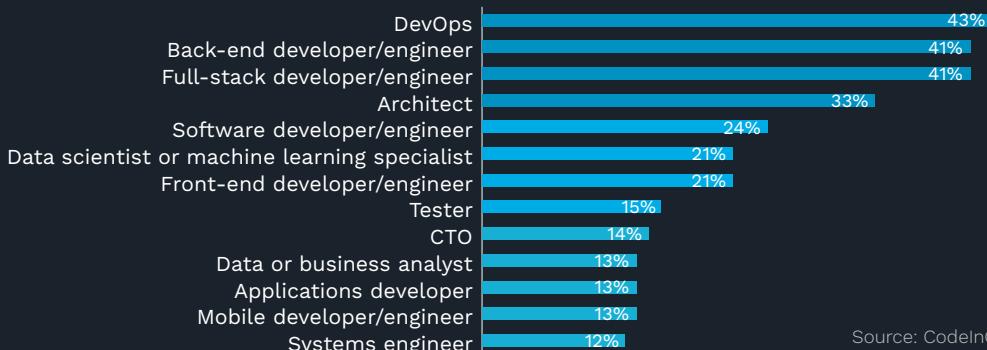
Moreover, 68% of companies plan to hire up to 50 developers in the next year, showing that there is no slowdown in the demand for tech talent. Companies are continuing to rely on essential technologies, such as cloud-based tools, which 92% of companies say they are increasing.

Among the most in-demand roles, those around DevOps, Cyber, Cloud, Python, Java, Full Stack Development and Data + Analytics are seeing the most demand and have employers concerned.

Positions employers think they'll struggle to source/recruit in 2022

Position	%
DevOps	43%
Back-end developer/engineer	41%
Full-stack developer/engineer	41%
Architect	33%
Software developer/engineer	24%
Data scientist or machine learning specialist	21%
Front-end developer/engineer	21%
Tester	15%
CTO	14%
Data or business analyst	13%
Applications developer	13%
Mobile developer/engineer	13%
Systems engineer	12%

Source: CodeInGame Developer Survey 2021

CONTACT A HIRING EXPERT TODAY

As demand continues to rise alongside the continued digital transformation, technical professionals have more options available to them on the job market than ever before, and some are even looking to leave the "Big Tech" companies for greener pastures.

Between skyrocketing salaries and loss of flexibility as workers return to offices, employers are losing talent and spending 50-250% more to bring on new hires. Those that aren't searching for new roles face the threat of burnout, which 30% of employees say is also feeding into the all-time high of IT staff turnover, as they take on more to compensate for the talent shortage.

13.5%
The United States IT industry's turnover rate is at an all time high.

All in all, tackling the tech talent shortage is about more than hiring, and in the future, both hiring and retaining talent will become less and less transactional - and more about understanding how to mitigate the gap. Is it time to rethink your requirements and overcome the talent gap creatively?

What are you doing to overcome the TECHNICAL TALENT gap?

How to Mind the Gap: Past Compensation

Rethink your Requirements: Remove traditional notions of what it means to be qualified for a role. Companies and candidates that spend their time looking for the perfect opportunity without flexibility end up wasting time, not filling vital roles, and missing out on potential matches. As the saying goes, don't let perfect get in the way of good.

Out of the Box Recruiting: Traditionally, candidates come from employee referrals, networking groups or associations, limiting exposure to new pools. For example, diversify your team and sourcing process at the same time: leverage AI technology or diversity recruiting partners, consider a neurodiversity program, or connect with historically black or Hispanic-serving institutions to expand your candidate pool.

Develop the Specialty Skills: Implement an in-house training and certification program or find an external option, then hire capable developers or candidates without every single desired skill. 50% of organizations will still hire a developer even with a mismatch between role and candidate. By investing in robust training programs and hiring more junior developers or less specialized-tech candidates, companies can let employees expand their skillset and give them support in their career development, letting them grow into a more senior or specialized role.

Don't Depend on a Degree: Many HR professionals are no longer requiring 4-year degrees for tech roles, looking instead for hands on experience, apprenticeships and alternative trainings like LaunchCode or advanced certifications earned by years of experience and skill.

Consider Paid Internships: As students and recent graduates start their careers, paid internships offer hands-on experience and help create a pipeline of a quality talent pool as those interns become more experienced in the workforce.

Upskill Current Skillsets: From the continued growth of STEM programs and coding camps to specialized certifications and self-teaching resources, it is easier than ever for anyone to educate them-selves and develop their skills, whether someone newer to the industry or an experienced tech profes-sional. As a hiring manager or candidate, you can utilize these resources or create your own, enhancing your skillsets and combating the shortage of specialized talent.

Create a Culture of Learning: Take the time to learn and build up the necessary skillsets for a role going into 2022. With 42% of employers committed to upskill 100k employees by 2025 and numerous free online resources for tech, plus traditional certifications, there are opportunities everywhere. Many companies offer learning programs specifically for sharpening the skills of existing employees.

Focus on specific areas: While there is an overall talent gap, some sec-tors are being hit harder than others. DevOps and Cybersecurity are roles that companies continue to struggle to fill, with our recruiters mentioning Python roles as well. Honing your abilities in these fields will make you that much more valuable on the job market.

CHECK IT OUT
See recommended certifications & added skills in the salary data section

View contracting as a solution: Contract roles have increased in popularity in recent years, with both companies and candidates enjoying the production, freedom and flexibility of these positions.

Trial and Growth: With millennials 3x more likely to switch jobs compared to older generations, con-tract roles are ideal for getting a foot in the door in a variety of companies and industries, building their resume and skillset quickly. Additionally, this gives hiring managers the opportunity to **vet** candidates hands-on for longer term engagements without needing to find a unicorn every time.

Start Your Project Fast: Whether you're a tech professional or hiring manager, contract work can get the next step in the job process off the ground **faster**, with quicker onboarding and training.

Stability in Contracting: Most contractors aren't added to department headcounts, keeping your team on **budget**. Since many times an agency like Motion is footing the bill for health benefits, candidates have similar benefits to a full-time role without costing a company overhead expenses. Plus, many con-tracts can exceed a year or more.

As we ride the wave of the Great Resignation into 2022 and beyond, a quarter of employees have said they would most likely leave their jobs once returning to the office. Meanwhile, many companies have yet to figure out their approach in tackling the tech talent gap as retention and attraction become paramount.

The State of TECH EMPLOYMENT

With the high demand and an uncertain future for tech talent, what are companies doing to attract candidates and in terms of total compensation?

The journey to become an employer of choice for the tech sector has changed since the pandemic started to align with the changing needs of the people within it. This starts far before the job offer stage: in 2020, there was an abrupt change in the interviewing and hiring processes with the necessary shift to remote; in 2021, 49% of workers said multiple rounds and scheduling errors are red flags for companies. Now, in order to get the top talent they need, companies must move fast in the interview process, be flexible with timing, and allow live coding or shorter take home tech tests – all to get to the job offer.

> **Considering that retention is as important as candidate attraction, every tech employee in essence could be looked at as a candidate weighing the options.**
>
> **- Phillip Perkins** | Vice President, Motion Recruitment
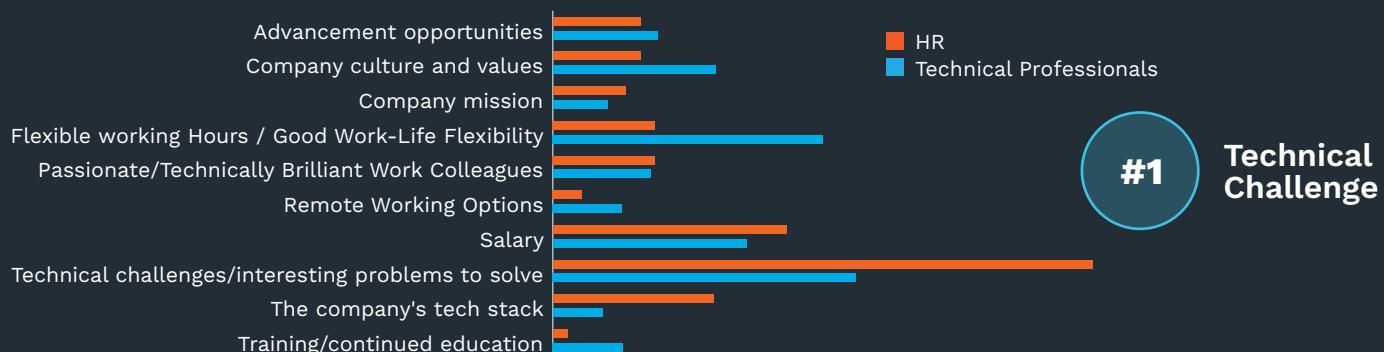
Whether job seekers or current employees, developers and engineers have a few demands of their own. They want a flexible working environment, a market-value salary and most importantly, technical challenges & interesting problems to solve. In fact, a recent survey indicated that about 60% of developers say one of these three top the list of most important things in a job offer.

Aside from those in the job offer or even job search stage, the dynamic between tech professionals and employers is going through a bit of a revolution as it moves away from more transactional methods. In the past, companies have invested millions in campuses, but perks such as free food, gyms and an in-house masseuse don't hold the same allure anymore. Traditional benefits have evolved to become more personal: free or discounted childcare, mental health, discretionary PTO, and opportunities for skillset growth. Among the needs for both candidates and hiring managers, is a serious upskilling movement. More needed in the tech workforce than "yoga Fridays" are guaranteed opportunities to grow value and skillsets with upskilling programs and projects to apply them on.

Time, responsibilities, compensation, skillsets, growth, work/life balance, location, team…There's a common theme among what everyone in the tech world wants right now, and the key to it is flexibility. Employers and employees alike in the tech world are saying the top things that matter beyond benefits are…

What matters most in a job offer?

Legend:
- **HR** (orange)
- **Technical Professionals** (blue)

Categories (top to bottom):
- Advancement opportunities
- Company culture and values
- Company mission
- Flexible working Hours / Good Work-Life Flexibility
- Passionate/Technically Brilliant Work Colleagues
- Remote Working Options
- Salary
- Technical challenges/interesting problems to solve
- The company's tech stack
- Training/continued education

Source: CodeInGame Developer Survey 2021

#1 Technical Challenge

34% of technologists say they need more flexible working hours and better work/life balance.

65% of employees are also craving more in-person time with their teams.

66% of business decision makers are considering redesigning physical spaces to better accommodate hybrid work environments.

225 Working near home (WNH) is on the rise – pre-pandemic, on average workers spent 225 hours a year commuting. Smaller, more remote offices operating like coworking spaces are an increasing demand.

30% of corporate commercial property worldwide could be flexible work-spaces by 2030 – enabling WNH without compromising either in-person opportunities or the desire for remote work as teams and coworkers come together.

While all HR and tech professionals may not agree on each item, at the end of the day, it's all about value: IT professionals want to get paid their value, increase their value as a professional on interesting projects, be given trust as a valued employee and add to their value with access to upskilling. Other than that, the best way to attract talent may be simply adopting a policy of flexibility and listening to what both current and potential employees want.

- **Re-imagining the Workplace**
- **How to Actually Hire and Retain Talent**
- **Find a Recruiting Partner to Consult With**

What's Next for TECH EMPLOYMENT in 2022?

Leaders with decades of recruiting and hiring experience across North America shared what they're seeing in the marketplace and how it will impact tech employment moving forward into 2022. Setting yourself up for success in 2022 and beyond will require maintaining the right expectations and making the moves for your future, now.

After speaking with thousands of tech professionals, employers and candidates, top recruiting experts from Motion share insights below.

From the Market Experts:

Tech Salary Stabilization: We're all tired of hearing it, but it really has been an unprecedented two years that have caused a seismic shift in how the world works. While there are many things that have fundamentally changed (remote work), many of our experts believe there will be more consistent movement in the tech industry in 2022. Final decisions about time needed in the office, regional pay cuts, and vaccine mandates will be made, and workers will settle into their new positions. While trends are showing salaries continuing to increase in the tech industry, the exponential growth in take-home pay is most likely not sustainable long term.

The Next Generation Gains a Foothold: Stack Overflow's 2021 Developer Survey indicates that the average age of a developer has been decreasing with new coders in the workforce, with 50% of developers reporting that they have been coding for less than a decade - and 35% for less than 5 years. Tech workers who would be considered junior level will begin to be placed in higher positions due to supply and demand. Having proper training and management over these hires will be critical to their success. Nurturing and mentoring these newer members of the workforce will lead to greater success when they are challenged in their roles.

Proactive in Promoting a Progressive Work Culture: Many candidates are looking for companies that are creating an identity beyond just turning a profit. 66% of large employers are planning on implementing new Diversity, Equity & Inclusion programs. Believing in causes that align with their values is something that can set a company apart.

Moving Quicker in Hiring: Companies that are getting top talent are moving fast in their interview processes. Gone are the days when businesses have time for weeks long processes, with 49% of workers believing that multiple rounds and scheduling errors are red flags for companies. In all likelihood, there will be fewer tech tests overall; doing your due diligence is still important in your hiring process, but if your company doesn't have major name value, making candidates take a tech test has become a major turn-off. Instead of a test separate from the interview, learn more about their skills during the interview or go for a live coding test.

An Expanded Job Market: Job markets have expanded from the city limits of where a candidate lives to anywhere in the United States, depending on the company. With remote work becoming more prevalent, job seekers can expand their search to find jobs that fit in best with their skills and career goals and not be confined to how far they are willing to commute. Also, candidates living in places not normally known for tech talent can now be a part of the industry, with anyone with an internet connection being able to work together.

Know your Worth: Using tools like the Tech Salary Guide you're reading right now, candidates should research the going rate for the jobs they interview for before the process begins. Also, if interviewing for a remote position, candidates should know the average rate for both the city they live in as well as where the company is located.

Grow your Worth: For candidates, getting the job is only the beginning. Companies are looking for people that are continually looking to improve and evolve with the business. Candidates and new employees need to be findings ways to upskill and grow if they are looking to continue an upward trajectory in their career.

Conclusion

Employer Takeaways:

☑ **Flexibility:** Whether it's expanding a talent search beyond your headquarters, allowing more time working from home or rethinking qualifications for a position, businesses need to be less rigid in their operations.

☑ **Create an environment for your employees to thrive:** From a robust training program to building a diverse and inclusive company culture that lets employees grow, develop and maintain an atmosphere where your business and workers can be at their best.

☑ **Embrace Change:** Even in the fast-paced world of tech, fundamental changes to how work is done are happening at an incredible pace. Companies that adapt to these shifts will be the ones that are most successful at acquiring and retaining talent.

Candidate Takeaways:

☑ **Upskill:** Companies are looking for tech workers that have multiple things to offer, or are highly experienced in the most in-demand skillsets. Find a technology you are passionate about and dive in to increase value.

☑ **Decide your Priorities:** Hybrid or in-office? Full-time or contracting? Higher salary or better benefits? Figure out what is most important to you and be consistent with your employer or job search requirements.

☑ **Constant Communication:** Once inside a company, have frequent conversations with co-workers and managers to build a rapport and make sure everyone's goals and expectations are aligned.

CONCLUSION

2022 in Motion: Services & Opportunities

As 2021 has shown time and time again, "that's the way we've always been doing things" is a thing of the past. Traditional systems like 40-hour weeks in the office and long interview processes have become an antiquated notion of what to expect while working in the technology field. Expectations for tech workers have changed as well, with professionals expected to be knowledgeable in a variety of fields around their specialty as demand shifts towards market-driven needs like security and digital transformation.

With the tech talent gap continuing to expand, companies are searching far and wide to fill their tech roles, and candidates are trying to figure out where the right fit is to grow their careers. Motion Recruitment stays on the pulse of the tech world, seeing the innovative ways businesses and workers are staying a step ahead of the field and can help guide you into making the right decisions for your business or career in 2022 and beyond.

We hope that these insights and the following salary data helps you on your journey inside the tech industry, and we are always ready to hear your feedback, talk strategy, and work with you to lead you on a roadmap to success this year. Visit our website to contact a local expert and get started today.

VIEW TOP JOBS HERE 🔗

TALK TO A LOCAL HIRING EXPERT 🔗

Tech SALARY Ranges

This section outlines the city specific variances that should be applied to the following North American salaries per tech job.

Contents

Tech Salary Ranges

Local Variances

With more and more tech positions becoming fully remote, cities that can be considered tech hubs have rapidly expanded. **See how remote and hybrid offices have affected the tech marketplace here.**

Variances

	Arlington	Atlanta	Boston	Charlotte	Chicago	Dallas	Irvine	Los Angeles	New York	Philly	Phoenix	San Francisco	San Jose	Seattle	Toronto
Data	1.113	1.016	1.120	1.048	1.136	1.078	1.178	1.269	1.243	0.973	1.092	1.512	1.429	1.567	1.021
Functional	0.932	0.851	0.938	0.878	0.951	0.903	0.987	1.063	1.041	0.815	0.914	1.266	1.197	1.312	0.855
Infrastructure	0.976	0.892	0.982	0.919	0.997	0.946	1.034	1.113	1.090	0.854	0.958	1.326	1.254	1.374	0.896
Mobile	1.058	0.967	1.065	0.997	1.080	1.026	1.121	1.207	1.182	0.926	1.038	1.438	1.359	1.490	0.971
Product & UX	1.034	0.944	1.040	0.973	1.055	1.002	1.095	1.178	1.155	0.904	1.014	1.404	1.327	1.455	0.949
Security	1.160	1.060	1.168	1.093	1.184	1.124	1.229	1.323	1.296	1.015	1.138	1.576	1.490	1.634	1.065
Software	1.060	0.968	1.067	0.998	1.082	1.027	1.123	1.208	1.184	0.927	1.040	1.440	1.361	1.492	0.973
General	1.045	0.906	1.048	0.951	0.996	0.941	0.824	1.071	1.142	1.171	0.912	0.956	1.424	1.372	1.391
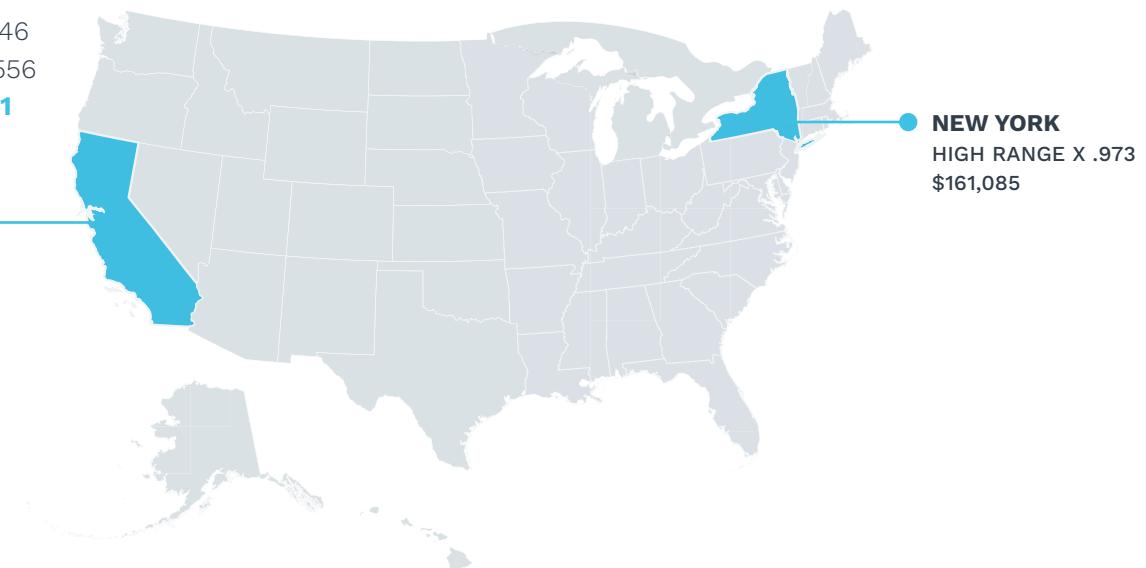
Senior Data Scientist

Low Range: $127,246
High Range: $165,556
Average: $146,401

NEW YORK
HIGH RANGE X .973
$161,085

SAN FRANCISCO
HIGH RANGE X 1.429
$236,578

***The city variances shown here are derived fully from analyzing internal company data, which is copyrighted and intended for personal use only.

NATIONAL
Management/Executive

As described on the opening page, salary averages here represent low ranges and high ranges of the two levels.

Management	MIN	MAX
Chief Security Officer	$208,600	$312,900
VP of Engineering	$191,912	$237,804
Chief Technology Officer	$174,181	$219,030
Chief Operating Officer	$187,740	$260,750
Creative Director	$156,450	$229,460
Director of Engineering	$163,751	$204,428
Engineering Manager	$151,235	$185,654

Top priorities when considering a new company (US)

June 2021, LinkedIn Talent Drivers-Survey

1. Compensation and Benefits

2. Work-life balance

3. Open and effective management

Priorities growing more important since the pandemic began (US)

April 2020 vs. June 2021

1. Flexible work arrangements **+24.5%**

2. Inclusive workplace **+22.6%**

3. Work-life balance **+6.0%**

#10 MOST FREQUENTLY POSTED TECH JOB (INDEED)

SENIOR TECHNICAL DIRECTOR

Average Salary: $196,397

*One of many job titles for a role similar to Director of Engineering, though "Senior" pushes the salary up to the top of the bracket.
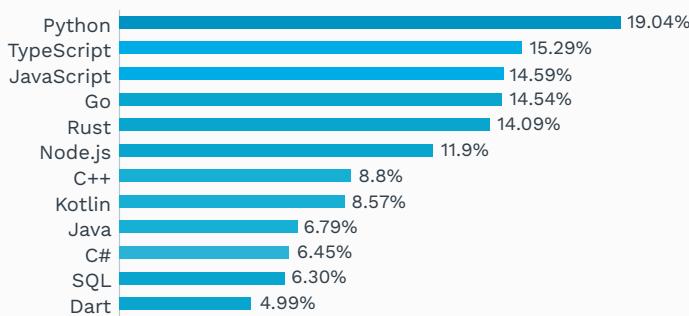
Software Development

	MID LEVEL		SENIOR LEVEL	
	LOW	HIGH	LOW	HIGH
Software	**$94,088**	**$124,348**	**$128,004**	**$158,061**
Back End	**$96,434**	**$126,882**	**$129,812**	**$160,656**
.Net Architect			$156,450	$196,432
.Net Developer	$84,311	$112,813	$113,588	$140,435
API Architect			$135,590	$146,020
Application Developer	$81,298	$105,647	$115,773	$138,719
BackEnd Developer	$103,283	$137,073	$139,651	$171,539
C++ Developer	$90,184	$130,189	$124,191	$176,416
Golang Developer	$104,691	$150,475	$143,702	$181,076
Java Architect			$151,235	$187,740
Java Developer	$96,303	$132,657	$127,565	$152,780
Microservices Engineer	$118,670	$141,788	$148,338	$173,833
Node.js Developer	$90,669	$127,927	$128,380	$161,438
PHP Developer	$82,465	$113,891	$114,730	$143,860
Platform Architect			$177,310	$234,675
Platform Engineer	$93,602	$124,690	$144,064	$168,836
Python Developer	$88,625	$121,741	$128,012	$159,954
Ruby Developer	$93,341	$125,960	$130,375	$159,295
Ruby on Rails Developer	$83,718	$115,252	$120,597	$161,339
Scala Engineer	$116,816	$151,235	$149,497	$179,222

Among recruiting and hiring leaders, the shortage of Python developers comes up regularly. With a lower barrier to entry than other languages and as a skill leading to a number of career tracks, investing time in learning Python can pay off in dividends.

Programming, Scripting and Markup Languages Developers Most Want to Work with Going into 2022

Stack Overflow

Language	Percentage
Python	19.04%
TypeScript	15.29%
JavaScript	14.59%
Go	14.54%
Rust	14.09%
Node.js	11.9%
C++	8.8%
Kotlin	8.57%
Java	6.79%
C#	6.45%
SQL	6.30%
Dart	4.99%

Most Desired (and Tested) Tech Stacks in Java and .Net

devskiller.com

Java

1. Spring — 35.96%
2. Spring Boot — 20.47%
3. Hibernate — 18.03%
4. Maven — 16.08%
5. Gradle — 8.77%

.NET/C#

1. ASP.NET — 45.93%
2. SQL Server — 39.60%
3. MVC — 36.35%
4. .NET Core — 26.04%
5. Entity Framework — 19.35%
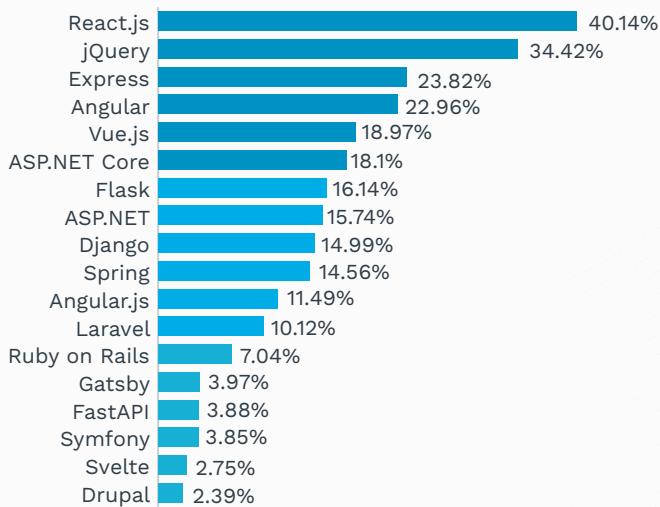
	MID LEVEL		SENIOR LEVEL	
	LOW	HIGH	LOW	HIGH
Front End	**$89,642**	**$118,898**	**$119,051**	**$149,986**
Angular Developer	$84,725	$114,824	$106,908	$135,069
Javascript Architect			$156,450	$177,310
Javascript Developer	$87,153	$119,661	$114,551	$152,854
React Developer	$90,741	$128,289	$120,178	$156,450
Vue.Js Developer	$96,999	$118,902	$116,468	$152,104
Web Developer	$89,961	$112,911	$130,844	$146,750
General	**$97,910**	**$131,311**	**$138,263**	**$169,383**
Full Stack Software Developer	$90,243	$122,373	$122,439	$153,421
Gaming Engineer	$89,679	$140,498	$139,501	$173,399
Robotics Engineer	$125,604	$152,634	$172,095	$187,740
Sales Engineer	$94,913	$109,870	$114,730	$156,450
Salesforce Developer	$104,300	$146,020	$156,450	$187,740
Solutions Architect			$128,885	$171,350
Software Architect			$151,235	$181,482
Software Developer	$94,088	$124,348	$128,004	$158,061
Embedded	**$94,139**	**$131,820**	**$135,474**	**$162,911**
Embedded Engineer	$93,619	$130,205	$138,719	$155,407
Firmware Engineer	$81,484	$120,765	$130,375	$161,665
IOT Engineer	$107,314	$144,492	$137,328	$171,660

Most Commonly Used Web Frameworks

Source: Stack Overflow, 2021

- React.js — 40.14%
- jQuery — 34.42%
- Express — 23.82%
- Angular — 22.96%
- Vue.js — 18.97%
- ASP.NET Core — 18.1%
- Flask — 16.14%
- ASP.NET — 15.74%
- Django — 14.99%
- Spring — 14.56%
- Angular.js — 11.49%
- Laravel — 10.12%
- Ruby on Rails — 7.04%
- Gatsby — 3.97%
- FastAPI — 3.88%
- Symfony — 3.85%
- Svelte — 2.75%
- Drupal — 2.39%

Top 10 Tech Skills Most Needed in Job Postings

Source: Indeed

Q2 2021

RANK	SKILL	% CHANGE
1.	Project Management	▲ 15%
2.	SQL	▲ 9%
3.	Java	▲ 7%
4.	Python	▲ 15%
5.	JavaScript	▲ 8%
6.	Linux	▲ 7%
7.	Scrum	▲ 21%
8.	Business Process	▲ 21%
9.	Technical Support	▲ 15%
10.	Quality Assurance & Control	▲ 14%

Product + UX, QA, Mobile, Functional

	MID LEVEL		SENIOR LEVEL	
	LOW	HIGH	LOW	HIGH
Product & UX	**$96,058**	**$125,928**	**$129,693**	**$151,924**
Graphic Designer	$91,784	$106,386	$104,509	$125,577
Product Designer	$96,094	$127,591	$135,208	$161,029
Product Manager	$109,921	$136,096	$126,203	$156,999
UI Developer	$98,036	$117,017	$128,093	$152,604
UI/UX Designer	$96,026	$124,850	$131,027	$138,198
UX Researcher	$96,428	$112,747	$127,768	$142,109

50% of UI/UX Professionals globally got salary raises in 2021	50% of Quality Assurance Professionals globally got salary raises in 2021

	MID LEVEL		SENIOR LEVEL	
QA	**$84,952**	**$107,403**	**$114,361**	**$140,358**
Build and Release Engineer	$91,228	$106,972	$131,120	$162,465
QA Analyst	$66,752	$87,612	$82,136	$104,300
QA Automation Engineer	$99,039	$123,046	$123,933	$141,418
QA Engineer	$78,137	$99,333	$103,459	$130,375
SDET	$89,607	$120,053	$131,157	$163,230
Mobile	**$92,267**	**$139,090**	**$135,865**	**$170,254**
Android Developer	$94,868	$139,789	$138,538	$172,889
iOS Developer	$89,068	$134,758	$127,881	$162,799
React Native Developer	$92,864	$142,724	$141,178	$175,075
Functional	**$86,626**	**$111,081**	**$106,789**	**$134,530**
Business Intelligence Analyst	$85,306	$119,734	$111,731	$143,673
Product Owner	$89,281	$99,085	$102,562	$125,160
Project Manager	$85,290	$114,425	$106,073	$134,756

SOFTWARE QUALITY ASSURANCE ANALYSTS & TESTERS

Job Growth (2020-2030)
22%

Must have skill for mobile developers: React Native is used with 11% of IOS and Android applications.

Top 6 Certifications for Product Development

1. Certified Scrum Master (CSM)

2. Project Management Professional (PMP)

3. Certified Manager Certification (CM)

4. Master Project Manager (MPM)

5. Certified Product Manager (CPM)

6. Certified Scrum Product Owner (CSPO)

Data

Top 4 upskilling needs in organizations:

1. Artificial Intelligence

2. Business Analytics

3. Data Analytics

4. Machine Learning

	MID LEVEL		SENIOR LEVEL	
	LOW	HIGH	LOW	HIGH
Data	**$93,457**	**$137,050**	**$136,473**	**$171,254**
AI Engineer	$98,340	$147,554	$137,676	$179,396
Big Data Engineer	$110,754	$190,611	$146,020	$213,815
Business Intelligence Developer	$106,028	$121,595	$123,700	$145,238
Computer Vision Engineer	$101,825	$205,955	$166,880	$246,843
Data Architect			$159,927	$195,563
Data Analyst	$87,164	$121,908	$128,637	$148,628
Data Engineer	$91,222	$141,871	$134,817	$173,605
Data Modeler	$104,300	$117,426	$156,450	$177,310
Data Scientist	$87,584	$133,808	$127,246	$165,374
Database Engineer	$98,514	$122,966	$141,723	$171,350
Machine Learning Engineer	$95,856	$129,732	$160,622	$194,520
NLP Engineer	$116,034	$180,559	$177,310	$208,600
SQL Developer	$77,718	$95,451	$96,478	$122,553

DATA SCIENTIST JOBS

Data Science jobs have increased by 650% since 2012, with 11.5 million new jobs projected to be created by 2026 in the field.
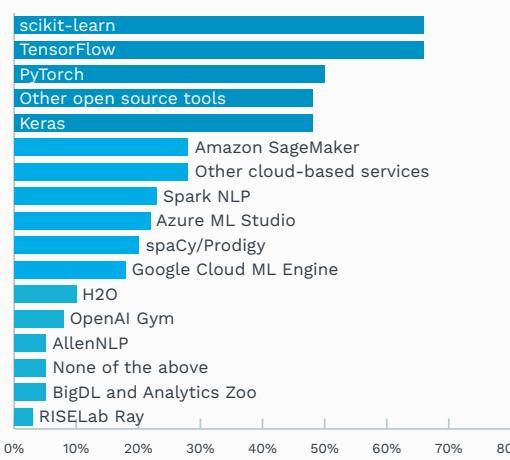
31%
Projected growth rate to 2030 for data science occupations.

cnbc.com

Salaries for a Machine Learning Engineer have increased an estimated 344% in just three years.

Tools Used by Muture Companies That Adopted Artificial Intelligence

Source: Oreilly.com

- scikit-learn
- TensorFlow
- PyTorch
- Other open source tools
- Keras
- Amazon SageMaker
- Other cloud-based services
- Spark NLP
- Azure ML Studio
- spaCy/Prodigy
- Google Cloud ML Engine
- H2O
- OpenAI Gym
- AllenNLP
- None of the above
- BigDL and Analytics Zoo
- RISELab Ray

0% 10% 20% 30% 40% 50% 60% 70% 80%

Top 3 Skills Needed for AI by Tech Professionals

1. ML modeling and data science skills
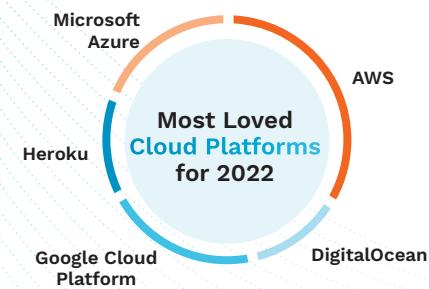
2. Tools of the trade: scikit-learn and TensorFlow

3. Data preparation and collection
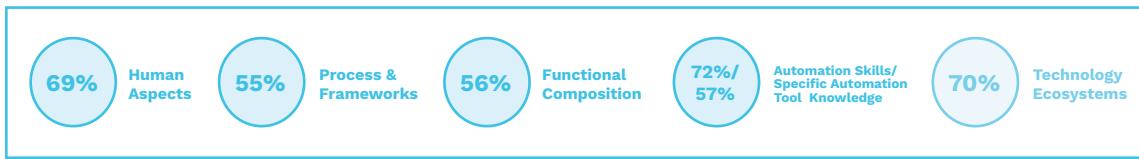
Infrastructure

According to a worldwide survey of IT executives, the biggest barrier to further utilize emerging cloud-based technologies is the lack of cloud skills in the IT workforce. However, with many companies moving to a multi-cloud environment, cloud-based career opportunities will continue to grow.

Most Loved Cloud Platforms for 2022

Microsoft Azure · AWS · Heroku · DigitalOcean · Google Cloud Platform

	MID LEVEL		SENIOR LEVEL	
	LOW	**HIGH**	**LOW**	**HIGH**
Infrastructure	**$87,479**	**$113,100**	**$120,737**	**$144,731**
Cloud Architect			$153,319	$180,650
Cloud Developer	$106,365	$130,380	$142,811	$162,267
Cloud Systems Engineer	$104,300	$122,031	$127,246	$149,149
Control Systems Engineer	$83,440	$125,160	$142,544	$187,740
DevOps Architect			$154,364	$187,740
DevOps Engineer	$93,456	$121,707	$130,801	$163,347
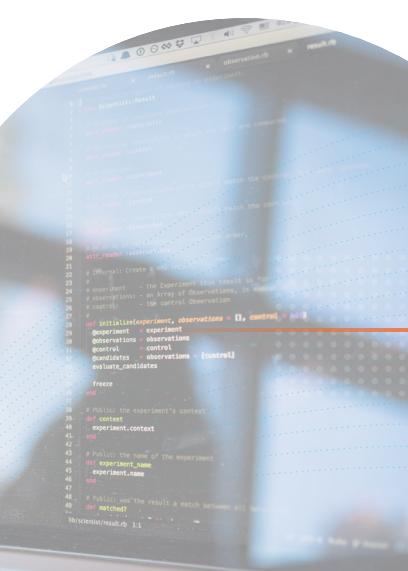
Skills Most Needed for DevOps Engineers

- **69%** Human Aspects
- **55%** Process & Frameworks
- **56%** Functional Composition
- **72%/57%** Automation Skills/Specific Automation Tool Knowledge
- **70%** Technology Ecosystems

Distributed Systems Engineer	$83,440	$126,203	$132,113	$161,665
Helpdesk Support	$59,070	$71,768	$78,225	$99,085
Infrastructure and Security Architect			$163,751	$174,181
IT Systems Analyst	$77,286	$88,655	$93,870	$104,926
Kubernetes Engineer	$97,043	$133,083	$144,977	$189,826
Linux Administrator	$88,658	$109,882	$111,810	$143,100
LinuxOps Developer	$92,707	$111,292	$136,089	$156,972
NetOps Engineer	$125,160	$156,450	$135,590	$177,310
Network Architect			$146,020	$168,966
Network Administrator	$68,838	$89,568	$99,085	$109,515
Network Engineer	$80,415	$116,816	$124,546	$148,781
Site Reliability Engineer	$102,840	$131,799	$141,437	$175,192
Support Engineer	$86,284	$101,456	$119,945	$125,160
Systems Architect			$146,020	$166,880
Systems Administrator	$76,019	$93,543	$108,093	$134,168
Systems Engineer	$90,499	$123,411	$123,800	$150,296
TechOps Engineer	$90,304	$133,052	$113,687	$151,235
Virtualization Administrator	$97,842	$123,198	$111,740	$129,608

Highest Paying Tools to Know (According to Tech Professionals)

Source: StackOverflow

1. Pulumi — **$110,000**
2. Terraform — **$90,482**
3. Chef — **$90,000**
4. Puppet — **$76,000**
5. Kubernetes — **$75,000**
6. Ansible — **$72,000**
7. Deno — **$64,859**
8. Docker — **$63,469**
9. Yarn — **$57,696**
10. Git — **$56,798**

Cyber, Security

Top-10 In-Demand Cloud Skills, in Order:

1. Azure
2. AWS
3. Google Cloud
4. Cloud Fundamentals
5. Orchestration (Kubernetes)
6. Other Cloud Platforms
7. Cloud Infrastructure
8. Computer Resources
9. Cloud Migration
10. Virtualization

|	MID LEVEL		SENIOR LEVEL	
	LOW	HIGH	LOW	HIGH
Security	**$107,863**	**$130,531**	**$138,349**	**$168,151**
(Cyber)Security Engineer	$123,147	$152,800	$165,003	$205,262
Application Security Engineer	$99,085	$104,300	$118,641	$151,235
DevSec Engineer	$112,666	$156,553	$140,805	$192,955
DevSecOps Engineer	$130,469	$163,751	$156,972	$204,689
Information Security Analyst	$89,626	$97,185	$132,114	$149,613
Information Security Engineer	$112,068	$141,964	$152,973	$186,002
Network Security Engineer	$115,628	$129,714	$149,844	$168,618
Security Architect			$161,665	$224,245
Security Analyst	$78,565	$108,305	$109,515	$123,074
Vulnerability Management Engineer	$109,515	$120,206	$119,276	$131,912

MOST SCARCE SKILL

#1 Most Scarce Skill in the US:

Cybersecurity

Click **here** for the roles employers are most concerned about recruiting for in 2022.

Adding Value: Certifications

These certifications are listed on the most job listings in the US:

CISSP **1**

CISA **2**

CISM **3**

Security+ **4**

CEH **5**

87% of IT professionals have at least one certification, so going beyond your higher learning education is becoming a necessity.

12K A new certification has the ability to boost an IT professional's salary by $12k or more.

HAVE CERTIFICATIONS AND LOOKING FOR A CYBERSECURITY POSITION? HERE ARE THE SKILLS COMPANIES ARE LOOKING FOR IN 2022.

MOTION
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Motion Recruitment provides premier IT staffing solutions (Contract, Contract-to-Hire, and Direct Hire) across 16 North American markets: Boston, New York, Philadelphia, Washington DC, Atlanta, Chicago, San Francisco, Silicon Valley, Los Angeles, Orange County, Charlotte, Phoenix, Greenville, Fort Worth, Dallas and Toronto.

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DATA SOURCES
The data in this salary guide represents real market compensation ranges derived from 16 major cities in North America. The base salary ranges are divided between Mid-level (2-5 years) and Senior-level experience levels (5+ years). Role ranges may vary by company size, industry and organization structure. All data is propriety to Motion Recruitment, validated by external sources, and subject to copyright and infringement protections. Contact Motion Recruitment for more detailed information based on your specific needs.

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