The Top 10 Technologies *Tech Candidates* Value Most in 2022.

Plus, the Recruiting Strategies You Need To Catch Their Attention

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2022
**CANDIDATE
INSIGHT
REPORTS**
★ ★ ★

Introduction.

One in five developers and data professionals said a company's tech stack is the most important element to them when they're looking for a job, according to figures from a survey of 1,099 tech professionals we conducted with Brandata. What's more, 39 percent of developers said wanting to work with new technologies was the main reason they're either actively looking for a job or open to new opportunities.

Tech tools matter a lot to these technical experts since they're the foundation of their professions. Having opportunities to work with the tools that interest them or match their skill sets can impact whether they decide to join a company — or stay at an existing one. They're also in the know about the tools and processes that will power the next wave of technological innovation. So with this, they're also passionate about learning new skills that will help them stay ahead of the game.

What does this mean for employers and their hiring teams?

By now, most businesses are well aware of how difficult it is to hire developers and data experts. In order to secure talent from this coveted group of professionals, employers must speak to the value they place on tech stacks and upskilling. **Businesses have to know what technologies these professionals value most overall, then use those insights to appeal to active and passive job seekers with nuanced recruitment efforts.**

And you're in luck because we have those very insights.

In this candidate insight report, we offer the top 10 tech tools that engineering and data professionals value most today. We also feature a number of solutions your recruitment team can harness to generate interest in your tech stack — no matter if your company invests in any of the top 10 tools or not.

Lastly, we provide details on why employers should be investing in upskilling initiatives that technologists can take advantage of as well as the importance of looking past traditional education in technical candidates' backgrounds.

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Report Methodology.

This report features first-party data from a variety of recent studies we conducted.

We pulled primary research data from our Built In Tech Worker Survey, conducted in partnership with Brandata, of 1,099 employed tech professionals across the country from March 18 to April 5, 2022. Respondents came from a wide range of backgrounds including engineering, sales, operations, data and analytics and many others. However for this report, we narrowed the respondent field to only include statistics from the 345 engineering and data professionals that participated.

We also used insights from a survey of Built In platform users from March to April 24, 2022. The survey saw participation from 1,116 respondents across various professional backgrounds. Lastly, we aggregated search data from the millions of tech professionals that visited our site between January 2021 and January 2022 to further our analysis.

This asset is part of an annual five-piece series: The 2022 Candidate Insight Reports. These reports — dedicated to benefits, salaries, content topics, industries and popular tech tools — are meant to give recruiters and people teams deep insight into what candidates are interested in and asking for in today's job market.

Executive Summary.

The section summarizes the key insights from the report. Continue on it get the quick scoop on the major findings from this year and what your people team can do to take advantage of these tools and others in your tech stack.

Top of the Popularity Charts.

Python, JavaScript, Java, Oracle and C# landed in this year's top five slots. Python, Java and C# also landed in the top five most-searched-for technologies on Built In in both 2020 and 2021. These tools are widely acclaimed for their flexibility, functionality and ease of use, so it's no wonder that they're so popular year-over-year.

Be More Transparent in Job Postings.

Job postings for technical roles should feature: the tech stack; the projects that tech is used for; how a candidate will implement that tech in their work; and what the interview process and timeline are like. 43 percent of Built In users say these elements are the most important parts of any job posting.

Employers that lean in on transparency across every aspect of their job listings will give candidates confidence that a role and its interview process is — or isn't — for them. As a result, businesses will see few unqualified candidates enter the pipeline as well as fewer qualified applicants drop out mid-interview cycle because it's taking longer than they'd hoped.

Recruit Like a Techie.

Recruiters should work to educate themselves on the day-to-day tools used by the technologists they're after. They should also be well-versed in some of the major challenges these professionals face and be prepared to speak on how their business can solve them.

EXECUTIVE SUMMARY

Recruiters can hone this knowledge by working directly with stakeholders on the tech teams they're hiring for to learn about the nuances of the role. They can also supplement their learnings with outside research. **When technologists know that recruiters understand their roles and what they seek in employers, it increases overall engagement and shows that a business cares about them as a professional.**

Another thing recruiters should be familiar with is where tech experts actually look for jobs. We found that some of the major places technical job seekers look for new roles are: tech-specific job boards, Google searches for news and company blogs, asking their personal networks and company review sites, among others. Once hiring teams know how to speak like technical experts and where they seek new opportunities, they can start to recruit like a techie.

Invest in Upskilling.

More than half of developers today have considered leaving their current role to seek other opportunities to learn new skills. **Upskilling is a new battleground for hiring and retaining technical experts — especially Millennials — and employers that invest in learning opportunities for their technologists will be well-suited to hire and retain them.**

And once this foundation of continued learning is set, employers should inform candidates in job descriptions: Almost half of all Built In users (46 percent) value seeing growth opportunities in job descriptions above all else.

Show the Tech Stack and Team at Work.

Job postings can only do so much to show the many nuances of a technical role that a candidate may be interested in. They also want to know how the team is structured or why a specific tech tool was adopted; recruitment marketing and employer branding efforts can help solve for this. **Companies should invest in storytelling initiatives that allow team members to speak on elements like their best practices, recent project wins and more.**

From there, recruitment teams can share these stories publicly on their company's channels or where their ideal candidates look for roles. The more insight tech pros have into the nitty-gritty details of their teams, the more they can get excited about joining them.

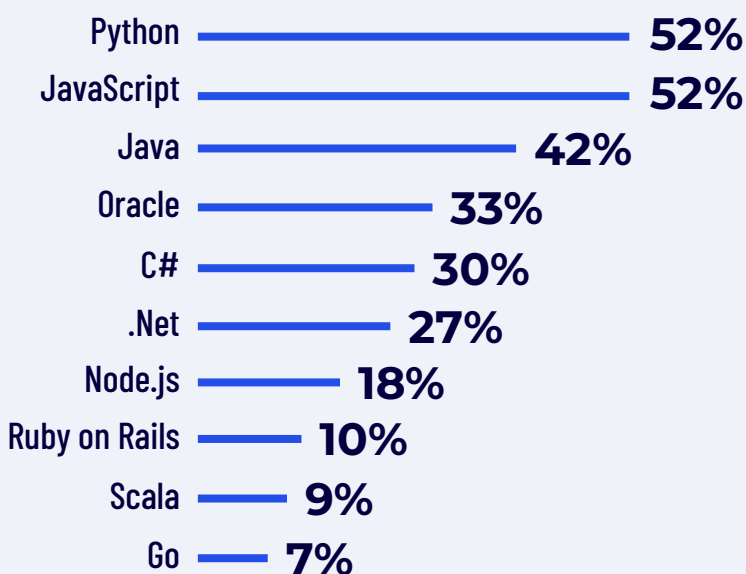# The Top 10 Technologies Technical Experts Value Most.

Read on to see the top 10 tech tools that engineering and data professionals value the most right now. You'll also see how those tools stack up against the technologies that Built In users searched for most in 2021.

Most-Searched for Technologies on Builtin.com.

10 Technologies That Technical Experts Deem the Most Important

Technology	
Python	52%
JavaScript	52%
Java	42%
Oracle	33%
C#	30%
.Net	27%
Node.js	18%
Ruby on Rails	10%
Scala	9%
Go	7%

How Brandata findings correlate to most-searched-for technologies on Builtin.com by candidates in 2021

Python is **#5**

Java is **#2**

C# is **#1**

.Net is **#10**

Scala is **#8**

[Source: Brandata findings correlation with Builtin.com by candidates in 2021]

How To Sell Candidates on Your Tech Stack.

Now that you know the major technologies that technical professionals today value most, you can start the work of winning them over with your company's tech stack. But fear not: even if your tech team doesn't use the tools in this year's list, there are still plenty of ways you can appeal to technical talent with your existing infrastructure and past projects.

In this section, we dive into how you can optimize your job postings and marketing efforts aimed at developers. We also look at the baseline knowledge you need as a recruiter around where developers look for jobs and how to make a good first impression.

Job Postings for Technical Experts.

When a job seeker reads your job posting, it's often a make or break moment: they can hit "apply" or potentially pass up on a role that you desperately need to fill. And since job postings feature so many elements — job description, role responsibilities, qualifications and more — it's vital that companies get their postings right to maximize the position's appeal.

43 percent of over 1,100 Built In users in a March 2022 survey said job details like tech stack, how that tech will be used and role responsibilities are the most important parts of a job description. This means professionals value these elements more than salary, perks and even remote work opportunities.

Overall, Built In users said their skills and experience around the technical specifications of a role are what interests them most about job openings — more than company culture or details about the company's mission or industry.

43% of tech professionals value technical details like tech stack above all else in job descriptions.

Things get even more nuanced when posting roles for technical positions like front-end developers or data scientists. These technical professionals want to know immediately whether their skills match the role they're investigating. They also want to know what kind of technology they might be building if their skills match.

Employers need to take the time to be upfront about the technologies that are necessary for the role and what they'll be used for. **It may not be necessary to list *every* single technology your tech department uses, but make sure to include the *main* tools and proficiencies needed for the job.**

It's also vital to be honest. Don't say that a trendy technology in your tech stack is foundational to the role if it only accounts for a small percentage of the work. Otherwise you risk wasting both your time and the technical applicant's: 32 percent of developers pull out of an interview process because they didn't like the tech stack, which is second only to them backing out because they got a better offer.

32%

of developers **pull out of an interview process** because they didn't like the tech stack.

SECTION 2

Job postings for technical roles should prioritize transparency and nuance in how they describe the tech stack, skills and responsibilities necessary for the position. **Employers should view their job postings as advertisements that answer candidates' technical questions before they even speak to a recruiter.** Having a high degree of detail upfront works to maximize engagement early and gives technologists all the information they need to picture their day-to-day work in a position. This strategy will also allow candidates who may not be interested in the role, or who are not the best fit, to move onto other postings.

Employers can evolve their job listings for technical roles even further by being upfront about their hiring timeline and interview process. Interviews for many engineering roles, for instance, require time-consuming screenings with multiple hiring stakeholders and coding tests. When engineers know these details upfront, they can assess whether they can commit to the full interview process before hitting "apply."

Ultimately, when businesses offer multi-faceted transparency in their job descriptions, they give tech experts the insights they need to move forward with confidence. They also increase their chances of getting more qualified, committed applicants into the candidate pipeline, which reduces the time it takes to fill roles.

Recruitment Marketing.

Job postings can work well to showcase the ins and outs of a technical role at a quick glance. However, employers also have opportunities to get deeper in the weeds around other areas of the role that applicants may care about.

For example, the top three challenges that developers face at work today are: rework and unplanned work; unclear direction; and inadequate technical knowledge or expertise within the team.

Developers in the job market may be curious as to how a dev team they're interested in approaches these challenges. And writing about these topics in job descriptions can be tricky or impossible due to length restrictions. **So employers can use branding to show rather than tell how they not only solve those challenges but how their teams use their tech tools. They can also show the impact these tools have on the product, team culture and more.**

Below, we collected a number of examples of businesses giving candidates a peek behind the curtain around how their technical teams operate across a number of areas. Take a look and try to spot opportunities for your hiring team to recreate similar stories.

Employer Branding Examples That Engage Technical Talent.

What's a core pillar of your team's tech stack and why was it adopted?

- [Learn How a Mission of Financial Access Drives Tech Stack Decisions at Dave](#)
- [Vue vs. React vs. Angular: Developers Share Their Favorite Tech](#)

What are the best practices that keep your technical teams operating at peak efficiency?

- [7 Local Tech Companies Reveal Their Distinct Approaches to Engineering](#)
- ['Deployment Underpants' and Other Charms to Ward Off Release Day Disaster](#)
- [How to Stop UX Features From Snowballing](#)
- [Want to Automate Testing the Right Way? Follow These Best Practices.](#)

What is your team structure like and how does that infrastructure create success for each member?

- [3 Tips for Success as an Engineering Team Leader](#)
- [How These Companies Navigated Growing Engineering Teams](#)
- [The Secrets of Successfully Scaling Engineering Teams](#)

What interesting challenges is your team solving with your tech stack?

- [How 8 New York Software Engineers Solved Their Biggest Technical Challenges](#)
- [2 Engineers Share Their Biggest Technical Challenges — and How They Solved Them](#)
- [How a Recent Technical Challenge Became a Growth Opportunity for This LA Engineering Team](#)

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The already tight labor market just became even tighter as competition for tech talent reaches near-record levels. For any employer relying on the old hiring playbook, it's time to rethink approaches to recruiting and retention. "

Tim Herbert
CHIEF RESEARCH OFFICER
CompTIA

Recruiter Knowledge.

It helps to know your audience and speak their language. As a recruiter today, it's not enough to simply put a job posting up and hope for the best. Or task an engineering leader with the legwork of answering technical questions. **Technologists don't have much time to speak to recruiters, especially ones who don't understand their role.** In one example of this, we saw an engineer on LinkedIn who had a form for recruiters to fill out when messaging him. He used this form to decide whether he wanted to speak with them.

Recruiters that know more about the technical aspects of the positions they're hiring for will have an edge as they engage with the engineering and data professionals they're after. To hone this edge, recruiters can spend time with hiring stakeholders on their tech teams to ask in-the-weeds questions and understand how to speak to the company's unique use of their tech stack. They can also do their own outside research to learn important details about how technologists approach their work and what's important to them. To get started on these efforts, keep reading — we feature a quick glossary on the top 10 technologies listed above and others to help you get started with these learnings.

This deeper knowledge will help recruiters and businesses overall stand out in their outreach; it will make a more impactful first impression among the many other companies seeking talent.
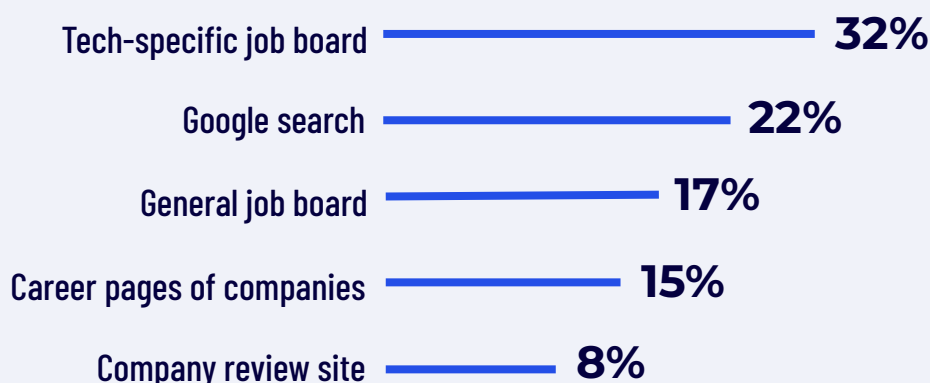
Similarly, recruiters should also know where technologists spend their time looking for opportunities during their job search. In our Brandata survey, we found that most engineers and data professionals begin their job search on tech-specific job boards.

Where Engineers and Data Professionals Start Their Job Search

Tech-specific job board ——————————— **32%**

Google search ——————————— **22%**

General job board ——————— **17%**

Career pages of companies ——————— **15%**

Company review site —————— **8%**

A separate study on the popular developer resource site Stack Overflow found that underlying developers discover the companies they want to work for across five key methods. In order of popularity, those sources are: their personal networks, news articles, company review sites, the company's blog or culture videos and lastly, ads.

Based on these findings recruiters can work to update their company's messaging about their open roles and their employer branding efforts in areas like job boards, ads and their internal blog. **And overall, the more that hiring teams know about where technical candidates spend their time during their job search, the more they can actively recruit through those mediums.**

The Value of Non-Traditional Backgrounds + Upskilling.

The tech labor market has changed since the days when a bachelor's degree was a mandatory requirement to get an interview — especially when recruiting technologists. Not only that, but many of these professionals won't even book an interview if the position or company they're investigating doesn't ensure opportunities for their professional growth.
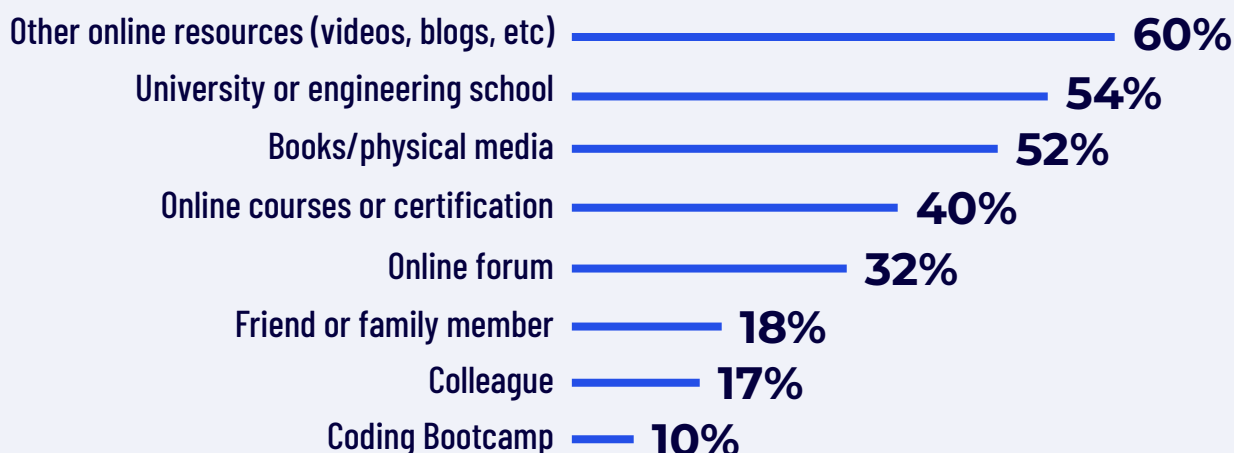
We explore both of these concepts in the next section and highlight ways that businesses can get ahead of these trends.

Open Your Candidate Funnel to Diverse Professional Backgrounds.

Learning to code, manipulate data or master other technical proficiencies is not easy. But professionals today are adept at finding ways to learn these skills without ever entering a university classroom. In fact, based on inferences from Stack Overflow and CodinGame surveys, it's clear that between 1-in-2 and 1-in-3 developers did not learn to program at a university.

Where 82,000 Stack Overflow Respondents Learned to Code

Other online resources (videos, blogs, etc)	60%
University or engineering school	54%
Books/physical media	52%
Online courses or certification	40%
Online forum	32%
Friend or family member	18%
Colleague	17%
Coding Bootcamp	10%

Where 14,000 CodInGame Respondents Learned to Code

University or engineering school	43%
Self-taught with free online/offline resources	32%
During pre-university education	14%
Online training course	4%

SECTION 3

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Businesses that take a hard line on hiring technologists with traditional degrees are robbing themselves of opportunities to bring in more of the highly-sought-after tech talent they need. However, more companies are starting to catch onto this trend as the job market remains at a fever pitch. In fact, 39 percent of recruiters today regularly hire developers with non-academic backgrounds, which is a 16 percent increase from 2021. Additionally, 57 percent of recruiters are prepared to omit the CV from their recruitment processes.

Employers should look toward what a candidate is capable of doing with their technical experience — where they earned it is minuscule in the grand scheme of things.

Companies can promote the idea that they welcome non-traditional backgrounds in a number of ways. They can update job postings with requirements like "BS/BA degree or equivalent experience." They can quantify it with language like "X years of experience" without mentioning a specific educational background. Or they can require that a candidate be able to accomplish a specific task, such as, "Use Python to build a finance-related data visualization model."

No matter the approach, companies and recruiters within them could improve their hiring efforts by opening their applicant pool to technologists from all professional backgrounds.

> "A computer science degree is no longer a must-have if you want a career as a programmer. With the wealth of online and offline resources available to everyone, coders of all levels of technical competence can improve their programming skills, opening up job opportunities in the booming tech sector."

Aude Barral
CO-FOUNDER
CodinGame

Upskill Your Way to More Hiring and Retention.

Upskilling is a facet of professional development where employers help staff learn new skills to stay ahead in their field and take on new challenges as technology or their industries evolve. It's a practice that professionals today value because it can increase their overall market value and continuously help them secure a brighter professional future.

Developers specifically place great emphasis on professional development in their job search and once they're well-established at a company.

- **53 percent of devs <u>consider leaving their jobs</u>** to seek new opportunities to learn
- **56 percent of devs planning to stay in their current roles** are doing so because they have new opportunities to learn
- **58 percent of devs said learning opportunities** are very important to their <u>overall happiness at work</u>
- **Millennial devs place the highest value** on learning opportunities

Investing in upskilling has numerous benefits for tech companies: they consistently have employees with the most cutting-edge skills, they can improve hiring rates and keep attrition numbers low. **The companies that choose to build upskilling initiatives — whether through mentorship programs, learning stipends, internal skills development courses or other methods — will have greater appeal to technologists.**

From there, businesses need to get the word out about the learning opportunities they offer. Employers need to highlight the specifics of their education initiatives in their job postings, blogs, employer branding content, social media content and wherever else they seek attention from candidates.

46%

Almost half of all Built In users value seeing growth opportunities in job descriptions above all else.

Technologies Glossary.

Not sure what the technologies in our top 10 list are? We built a glossary that includes definitions and helpful links for each tool in the top 10 as well as others that are popular in the world of developers and data pros.

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Python

Python is a popular multi-purpose, open-source coding language. Many beginners turn to it for its simple syntax and readability. This is also why it's the language of choice for a lot of beginner-friendly training. Python is also used by multiple big-name corporations including Google.

- [Python for Non-Programmers](#)
- [Python FAQ](#)

JavaScript

JavaScript, or JS, is a programming language for the web. It enables web pages to be more than static allowing interactivity, animated graphics and much more to be displayed. JS can be used for front-end client-side code, back-end code for servers and game development. Its robust capabilities make it one of the most widely used languages in the world and is currently used on 97 percent of websites.

- [The Basics of JavaScript](#)
- [JavaScript Introduction](#)

Java

Java is an open-source programming language used by 12 million developers. It supports mobile, web apps, the internet of things, big data, machine learning and cloud infrastructure. It's one of the most popular programming languages and has a "write once, run anywhere" model.

- [Java Introduction](#)
- [The Java Tutorials](#)
- [Getting Started with Java](#)

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Oracle

Oracle is a relational database management system that helps enterprises manage their data. It is cost-effective and high-performing. It also supports modern applications and has an array of editions for businesses to choose from. Oracle uses the query language, SQL, to interact with the database.

- <u>Introduction to Oracle Database</u>
- <u>What is Oracle?</u>
- <u>Oracle Database Technologies</u>

C#

C# (pronounced as "C Sharp") is an object-oriented language widely used when building desktop and web applications. The language was developed by Microsoft and runs on the .NET Framework. It is fairly simple to learn C#, especially if users are familiar with C, C++ or Java.

- <u>Introduction to C#</u>
- <u>A Tour of the C# Language</u>

.NET

.NET is a developer platform for building web, mobile, desktop, cloud and many other applications. It is a free and open-source platform created by Microsoft. The platform allows applications to have better response times while also using less computing power. It is self-proclaimed as the "most productive platform for developers."

- <u>What is .NET?</u>
- <u>Why Choose .NET?</u>

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Node.js

Node.js is a free, open-source server environment that can perform JavaScript code outside of a browser. It can build scalable network applications and run on multiple platforms such as Windows, Linux, Mac OS and many others. The node.js environment is memory efficient and eliminates waiting for developers.

- About Node.js
- Node.js Guides

Ruby on Rails

Ruby on Rails, sometimes referred to as Rails for short, is a free, open-source web application framework. The framework was built using the Ruby programming language and officially released to the public in 2004. Rails helps Ruby developers write code more quickly and efficiently.

- Intro to Ruby on Rails
- What are the Benefits of Ruby on Rails? After Two Decades of Programming, I Use Rails

Scala

Scala describes itself as "a beautiful, modern, expressive programming language." It is object-oriented and works seamlessly with Java. The language was created to help developers concisely build common programming patterns.

- Introduction to Scala
- Scala FAQ

Between **1-in-2** and **1-in-3 developers** did not learn to program at a university.

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Go (Golang)

Go, also known as Golang, is an open-source programming language built to make programmers more productive. It was created out of Google employees' frustration. The language automates mundane tasks and removes challenges of large code bases. Go is syntactically similar to C, but with memory safety, garbage collection, structural typing and CSP-style concurrency.

- An introduction to Go
- Go FAQ
- A tour of Go

HTML

HTML, or HyperText Markup Language, building blocks are the most foundation elements of static web pages. If you want to create a website from scratch, using this language is often the easiest place to start. HTML allows users to create structured documents that denote specific functions like image rendering, links, lists, paragraph blocks and more. CSS, Cascading Style Sheets, is often closely associated with HTML as CSS is a markup language that enhances the presentation of elements on HTML pages. JavaScript is also closely associated with HTML for its webpage-enhancing capabilities.

- HTML basics
- HTML vs. CSS: The Best Guide to Understand the Difference

SQL

SQL, an acronym for Structured Query Language, is a database management language meaning it can communicate with databases. It is commonly used with the following database management systems: Oracle, Sybase, Microsoft SQL Server and many others. SQL has the capability to update and retrieve data from these systems.

- [Introduction to SQL](#)
- [Welcome to SQL](#)

AWS

AWS, or Amazon Web Services, is an Amazon subsidiary that provides over 200 cloud computing platforms and APIs to individuals, companies and governments. These services — which assist with analytics, developer productivity, deployment, machine learning and many other areas — are accessed on-demand in a pay-as-you-go structure. The variety of ready-to-implement AWS services plus their cloud-based nature can offload significant infrastructure costs and/or time investments from development teams as they work on new projects. The most popular AWS tools include Amazon Elastic Compute Cloud (EC2), Amazon Simple Storage Service (Amazon S3) and Amazon Connect.

- [What is AWS?](#)
- [AWS FAQs](#)

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Git/GitHub

This free open source, version control software tracks changes within a project that one or multiple developers are working on. It allows users to see new updates, avoid duplicating work and revert to previous versions of the project if necessary. Git is its own entity whereas GitHub is a cloud-based space where developers can upload their Git-based projects for others to view and edit.

- [What is Git?](#)
- [An introduction to Git: what it is, and how to use it](#)

Docker

Docker is an open-source tool that allows developers to build and release applications quickly and efficiently in packages called containers. These containers feature all the libraries, system tools and code necessary to run the application in any environment and allow developers to easily build, start, stop and scale a specific application.

- [Introduction to Docker](#)
- [What is Docker?](#)
- [Docker FAQ](#)

Conclusion.

Technologists today essentially hold all the cards in the talent market. They've been among the most sought-after group of tech professionals in recent years (if not *the* most sought-after.) And as the job market holds steady while technology continues to advance, that trend is showing no signs of slowing down.

So employers must get scrappy if they wish to compete for the attention and talents of this group. Employers that can generate appeal based on the use of efficient tools and best practices will get more attention from technical experts. The recruiters that take time to learn about the technologies they use, the challenges they face and where they look for roles will have the best chances of booking interviews. The businesses that value experience over traditional degrees and that invest in upskilling will be rewarded for their open minds.

Overall, the companies and hiring teams that take time to learn what technologists are interested in, then commit time, energy and money to those interests, will set themselves up for hiring-driven success. From there, it's up to these businesses to put their best forward as they brand their investments to these tech-savvy experts.

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United We Tech.

Built In helps tech professionals stay on top of trends and news, expand their networks and carve out futures at companies they believe in.

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