



Revolutionizing Your Technical Recruiting Process

How to reduce bottlenecks
and smash your headcount goals

Introduction

Why your tech recruiting process must change

Talent Acquisition leaders today find themselves at a turning point.

Competition for technical talent among employers is steeper than ever, all while qualified engineers become more and more important to companies' success. To better identify qualified candidates and secure a coveted "yes" from them (before someone else does), technical recruiters and hiring managers must provide a better candidate experience and work faster than the competition.

Traditional recruiting processes weren't designed to meet the challenges of today's hiring market. Today's top TA leaders are revolutionizing their companies' technical hiring processes to hire better candidates, faster, by eliminating the bottlenecks caused by inefficient screening and engineering resource-intensive interview practices.

Leveraging our experience working with top companies hiring tech talent today, like Robinhood, Facebook, and Asana, CodeSignal has put together best practices for technical recruiting that will give your company a competitive edge in today's hot hiring market.

With these expert resources, you'll lead the way to improving candidate experience, dramatically reducing engineering time spent on recruiting, and increasing pass-through rates for quality candidates with an objective, unbiased process.

By the numbers: engineering demand in 2022

● **63%**

Percent of senior executives concerned about the **shortage** of engineering talent¹

● **1.4 Million**

Number of **unfilled positions** for software engineers in the US²

● **49 Days**

Average **time-to-fill** for engineering roles³

● **86%**

Percent of the **total cost** per engineering hire incurred by the engineering team⁴

● **40 Hours**

Average number of engineer hours spent interviewing and screening candidates to fill a **single engineering role**⁴



What you'll learn

This guide will empower you to transform your technical recruiting processes to deliver the top talent your company needs, fast.

You'll learn how to transform your technical recruiting processes for **two groups of tech talent** with distinctive needs: junior or early career talent, and mid- to senior-level talent. While reqs for junior, intern, and early career develop roles often bring in a high volume of inbound applicants, those for mid- to senior-level or specialized roles often attract a lower volume of candidates and require targeted sourcing.

We'll break down our recommendations for these two groups into best practices for **top of the funnel** (pre-screening candidates), **middle of the funnel** (technical phone screen), and **bottom of the funnel** (on-site interview).

The Tech Recruiting Funnel

Top
of funnel

Pre-Screening

Middle
of funnel

Technical Screening

Bottom
of funnel

On-Site Interview

Offer Stage

For hiring **early career talent**, we'll walk you through:

01.

Screening for interns and early career hires (high volume recruiting)

02.

Building relationships with your candidates at the mid-funnel stage

03.

Assessing real-world troubleshooting skills and team fit in the on-site interview

And for hiring **mid- and senior-level talent**, we'll lead you through best practices in:

01.

Competing for experienced and specialized developer talent (sourced talent)

02.

Streamlining the technical screen to save engineering time

03.

Digging deeper into candidates' problem-solving skills in the on-site interview

At the conclusion of this guide, we bring it all together to show you what an optimized end-to-end technical recruiting process looks like and the results one large tech company has seen by implementing these best practices.

Let's get started.

Best practices for hiring **early career developers**

Top of funnel

Screening for interns and early career hires (high volume recruiting)

When you're hiring for junior-level or early career developer roles, managing applicants at the top of the funnel can be a daunting task (we see you, university recruiters!). In the tech industry, a single job posting can result in hundreds or even thousands of applications. Or, if you're Google, millions. They receive over 3 million applications per year and have a hire rate of just 0.2 percent.⁵

So what's the best way for companies to find great future employees among this high volume of applications?

The Tech Recruiting Funnel: **Junior and early career hires**

Research-backed
technical skills screening

Traditional approach

Resume review

Many companies choose to go with **manual resume reviews** to screen applicants at the top of the funnel. Recruiters quickly scan through each of the resumes submitted, spending an average of 6 seconds per resume, and pick out the 4 to 5 percent of applicants they believe are most qualified for the position.⁶ This results in rejection of over 98 percent of applications on average.⁷

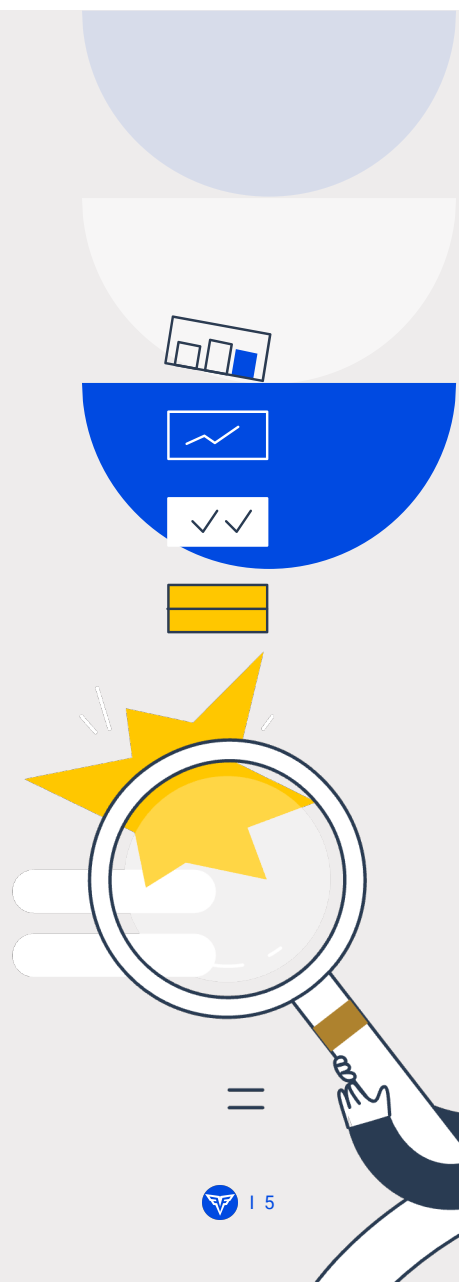
In an ideal world, recruiting teams would have the capacity to thoroughly review each resume submitted and hold a conversation with each applicant to gain a holistic understanding of their qualifications for the job. The reality, however, is that companies need to sift through a large volume of applications, fast, to narrow down their pool of candidates to interview.

Resumes, bias, and the rise of self-taught developers

It's well documented that resume review is subject to a high degree of bias and subjectivity. Even highly trained recruiters have **unconscious biases** that may shape how they evaluate a resume.

One example: people tend to notice educational institutions that are prestigious or which they themselves attended, opening up room for bias toward these candidates.⁸ This is especially problematic today, when many of the most highly-skilled developers attended less prestigious universities or, increasingly, learned to code through a bootcamp or with free online resources.

A recent study of new grad developers found that some of the best technical talent, when measured by objective coding skills, comes from universities that are often overlooked by university recruiting teams: Sacramento State University and Miami University, for instance, are among the top schools named in the report.



Changemaking approach

Top-of-funnel skills screening

Skills screening provides a more objective measure of a candidate’s qualifications, rather than the subjective impression of the person who reviews their resume. While bias can still creep into other parts of the recruiting process, objective skills screening limits the extent to which unconscious bias can shape decision-making at the top of the funnel.⁹ It also allows recruiting teams to identify top candidates who have non-traditional employment or educational backgrounds.

Research-backed skills screening is used at the top of the funnel to evaluate core programming skills shared across many roles—especially junior-level roles. Pre-built screens are developed, validated, and maintained by the vendor, and can save engineering teams time they might have spent developing a custom assessment or conducting a technical phone screen. Many assessment vendors integrate with applicant tracking systems (ATS), which makes it easy to send assessment invitations to candidates in bulk.

Key takeaway: Our recommendation is to send **research-backed skills screens** to all intern and junior-level applicants to efficiently identify top talent among a large pool of applicants.

Case study

Saving hundreds of engineering hours with top-of-funnel skills screening

A high-growth technology startup that recently went public decided to implement a technical skills screening solution after determining that their in-house assessment solutions were limiting their ability to scale their engineering team quickly. They chose a comprehensive solution that included research-backed screens to accurately identify qualified talent at the top of the funnel.

The company saw the results below within **10 months** of implementing the screening solution



Middle of funnel

Build relationships with your candidates

Using a research-backed skills screen at the top of the funnel gives recruiting teams a strong signal of which candidates possess the technical skills needed to succeed for the job. It also **saves recruiters hundreds of hours** they would have spent poring over resumes.

With a clear view of who has the skills for the job and time freed up by eliminating manual resume review, we recommend that you **have a recruiter reach out** to do what they do best: build connections with junior-level candidates, gauge their interest, and assess for culture fit. Building connections with top-scoring candidates will help move them along more quickly in the hiring process and create a positive candidate experience.

Depending on your company's applicant volume and hiring bar, you may also use the middle of the funnel stage to **conduct additional screening** of candidates who didn't quite meet your technical bar but may still turn out to be good fits.

3 tips for building connections with junior-level candidates

You've identified a candidate with strong technical skills and are excited to move them onto the next stage. What can you as a recruiter do at this stage to get this candidate excited about the role, so you can prevent drop-off and increase the likelihood of offer acceptance? Here are 3 tips:

01. Connect with candidates on their purpose.

Learning what a candidate cares about and what drives them in their work not only helps you gauge their culture fit—it also shows them that you care about their career aspirations.

The Tech Recruiting Funnel: Junior and early career hires

Research-backed
technical skills screening

Relationship
building



- **02. Communicate transparently and often about the recruiting timeline.**

Ease candidates' anxiety about next steps and when they can expect to hear back from your team by erring on the side of over-communicating with them. They will appreciate your attentiveness and personalized outreach.

- **03. Use automated scheduling tools to free up time to connect.**

If you spend a quarter of your day scheduling interviews and on-sites, you likely won't have time to engage in personalized outreach to top candidates. Let tools like GoodTime handle repetitive tasks so you can focus on what you do best.



Key takeaway: Don't underestimate the power of building meaningful connections with your top candidates to improve candidate experience and your offer acceptance rate.

Bottom of funnel

Assess real-world troubleshooting skills and team fit

You now have a select pool of qualified candidates that have moved to the on-site stage of your recruiting process. How do you make the most of this touchpoint to ensure your interviewers home in on the candidates best suited for the job while maintaining a positive candidate experience?

The answer: structured interviews. Structured interviews ensure fairness and consistency when conducting virtual or in-person on-site interviews. This is a win-win for both hiring teams and candidates.

The Tech Recruiting Funnel: Junior and early career hires

Research-backed
technical skills screening

Relationship
building

**Troubleshooting
skills &
team fit**

Tips for conducting structured interviews

Here are a few ways that structured interviews improve candidate experience in technical on-sites:

- **Reducing bias in the interviewing process** by creating a consistent interview process for all candidates.¹⁰ Candidates who go through a structured interview process will feel confident they are being assessed fairly.
- **Improving interviewer preparedness.** Interviewers who are prepared for the interview and aligned on their roles during the interview will leave a much better impression with a candidate than interviewers who are obviously “winging it.”
- **Encouraging interviewers to ask questions in a thoughtful progression.** Research shows that question order matters for a candidate’s performance and experience in an interview.¹¹ Starting with easier questions helps put the candidate at ease and warm them up for the more challenging questions you’ll ask later.

For junior-level roles where **core programming skills** matter more than specialized knowledge of languages or frameworks, we recommend using the technical on-site to dig into two areas best assessed by human interviewers: **real-world troubleshooting skills** and **team fit**.

Both candidates and interviewers have the best experience when they can collaborate and talk through a problem together. Consider coding interview tools that allow interviewers to quickly pull up real-world programming problems for candidates to solve and to assess candidates' communication and collaboration skills as they work through the problem together. Candidates will appreciate and perform best in a platform that provides a comfortable, realistic development environment.

Key takeaway: Conduct your on-site technical interviews in **a realistic development environment** that allows live collaboration and troubleshooting opportunities while providing a top-notch candidate experience.

Best practices for hiring mid- to senior-level engineering talent

Top of funnel

Competing for experienced and specialized developer talent (sourced talent)

While a junior-level developer job opening can bring in hundreds or even thousands of applicants, the situation is very different for mid- and senior-level technical roles. Today, companies are in **fierce competition** to attract and hire top candidates for these roles. As a result, they take much longer to fill than junior-level roles and rely heavily on recruiting teams sourcing candidates.¹² To win these candidates, you need to move faster and provide a better candidate experience than the other companies seeking this talent.

In your initial outreach to these candidates, your task as a recruiter is to **screen for role fit** and **build connections** that get them excited about the role, your company, and your recruiting process.

The Tech Recruiting Funnel:
Mid-to senior-level hires

Initial screen &
relationship building

Tips for coaching sourcers

A generic form email stating “we invite you to apply” likely won’t grab the attention and interest of top mid- and senior-level technical talent. [Here’s what you should do to stand out in your passive candidates’ inboxes:](#)

- **Reach out to prospects about more than just job opportunities.** Ask prospects about the things that matter to them: events they’ve attended, conferences where they’ve presented, and the latest research in their field. This shows prospects that you’ve taken the time to really get to know them—and gives them a compelling reason to respond to you.
- **Do personalized and data-driven outreach** rather than spamming prospects on LinkedIn. Highly personal messages sent via email or LinkedIn get consistently higher response rates than templated messages.
- **Do you offer remote work options?** Use that to sell the role and expand the geographic reach of your talent search. Without the limitation of geography, sourcers can identify prospects who are not just a good fit for the role, but a great fit.

Key takeaway: Recruiters should **develop connections** with candidates early in the recruiting process to get them excited about the opportunity and earn their trust.

Middle of funnel

Streamline the technical screen to save engineering time

For recruiting teams, the **technical screen** is arguably the most challenging stage of hiring mid- to senior-level developers. On the one hand, recruiters need to create an exceptional candidate experience and woo top talent to prevent candidate drop-off. On the other hand, they need to home in on candidates who are the best match for the job in terms of both technical qualifications and cultural fit.

We’ve observed two main ways that companies navigate this stage of the recruiting funnel.

The Tech Recruiting Funnel: Mid-to senior-level hires

Initial screen &
relationship building

Structured
technical screen

Traditional approach

Engineering-driven technical phone screen

A common approach for companies recruiting experienced engineers is to conduct an engineering-led technical phone screen with candidates who pass the initial screening. This approach requires one or more engineers (often the most valuable, senior-level engineers) to conduct an **hour-long interview** with each candidate who makes it to this stage. It also requires significant **prep time** for engineers to develop interview questions and calibrate scoring across interviewers.

Disadvantages of the traditional, engineering-led technical phone screen are:

- **Significant investment of engineering time** spent on conducting mid-funnel interviews (over 1 hour per interview, plus prep time)
- **Bottlenecks for recruiting teams and candidates**, who often need to wait a week or more for engineers to have time to conduct and debrief interviews
- **Inconsistent candidate evaluation & bias** across interviewers
- **Low-quality signal** of candidates' job-relevant skills when interview is not conducted in a realistic development environment

Changemaking approach

Structured technical screens

Leading companies are increasingly turning to new, structured versions of the technical phone screen as a tool for **reliably identifying top talent**—including for mid- and senior-level hires—that replaces the need for engineers to dedicate a significant amount of time to recruiting.

Compared to traditional phone screens, **best-in-class structured tech screens** offer a number of benefits for both companies and candidates:

- Companies obtain a **stronger signal** of a candidate's job-relevant skills by switching to a structured and validated technical screen hosted by a non-technical interviewer. They also **save hundreds of engineering hours** previously spent creating, conducting, and scoring traditional phone screens manually.
- Candidates can complete the tech screen in a **familiar and comfortable** development environment—introduced live by a real human—that simulates real development work. And because a structured tech screen is scored automatically, they'll **hear back sooner** than they would with a traditional phone screen, allowing qualified candidates to advance more quickly through the hiring process.

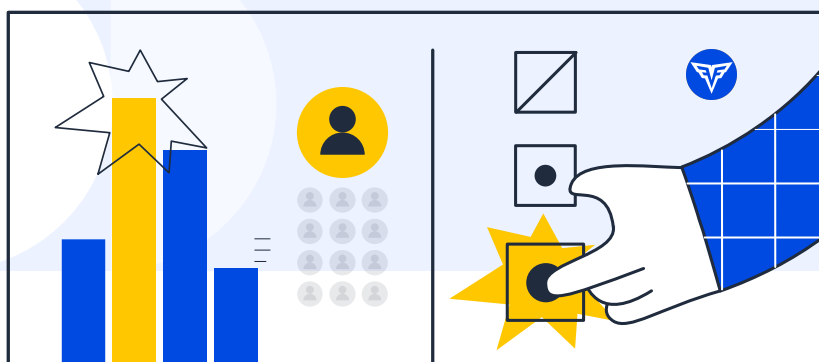
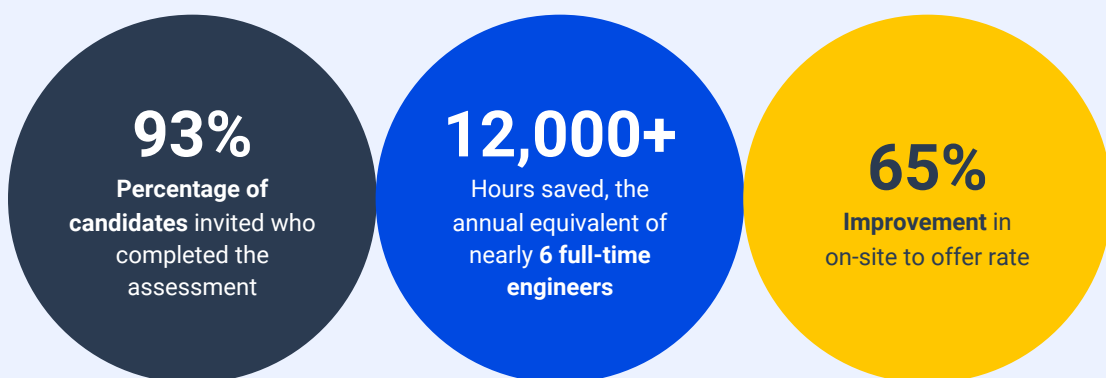
The time your recruiting team invested in **building a relationship** with the candidate early in the recruiting process pays dividends here: candidates will go into the tech screen knowing what to expect and why it's being asked of them in place of (not in addition to) a traditional phone interview.

Case study

Improving on-site to offer rate with a structured technical screen

A leading enterprise tech company determined that their engineering teams were spending too much time conducting phone screens and developing custom coding tasks, so they pivoted to a new approach: a structured technical screen built and maintained by CodeSignal to replace their traditional technical phone screen.

They have seen the following results within **3 months** by replacing their technical phone screen with a structured and validated tech screen:



Key takeaway: When you replace the traditional, engineering-led technical phone screen with a **structured technical screen** at the middle of the funnel, it's a win-win for candidates and engineering hiring teams.

Bottom of funnel

Dig deeper into candidates' problem-solving skills

After the assessment stage, you'll have narrowed down your pool of candidates to those who've proven they have the technical chops to succeed on the job. **The purpose of the on-site interview**, then, is to provide engineering hiring teams an opportunity to build a human connection with the top candidates and gain a deeper understanding of their problem-solving skills.

When interviewing experienced developers, our advice is to go beyond the more fundamental coding tasks in the on-site interview. [Here are some skills you should assess for instead:](#)

- Depth of experience working with a given framework
- System design expertise using a virtual whiteboard
- Collaboration and communication skills
- Ability to respond to new information while problem-solving

Try to strike a balance between using [structured interviews](#) with predefined questions (which ensure consistent evaluation across candidates and reduce bias) and allowing time for [interviewers to dig deeper](#) into a candidate's reasoning and problem-solving skills.

Key takeaway: Make sure your on-site interview digs into specialized and advanced problem-solving skills; it should provide **new information** about a candidate's skills that could not be inferred from their assessment result, which has already predicted their technical abilities.

The Tech Recruiting Funnel: Mid-to senior-level hires

Initial screen &
relationship building

Structured
technical screen

**In-depth
problem-
solving skills**



Conclusion

This guide has taken you through research-based best practices for optimizing your technical recruiting funnel for junior and mid- to senior-level hires. For both of these types of hires, we've broken down our recommendations by each level of the funnel. Here's a summary of the key takeaways from this guide:

For recruiting junior **or early-career** developers:

- Send research-backed assessments to all junior-level applicants as your first stage of screening to efficiently identify top talent among a large pool of applicants.
- Don't underestimate the power of building meaningful connections with your top candidates at the mid-funnel stage to improve your offer acceptance rate; and
- Conduct your on-site technical interviews in a realistic development environment that allows live collaboration and troubleshooting opportunities.

For recruiting **mid- to senior-level** developers:

- Have recruiters and sourcers develop connections with candidates early in the recruiting process to earn candidates' trust and buy-in;
- Replace the traditional technical phone screen with a validated and structured technical screen at the middle of the funnel to create a win-win scenario for candidates and engineering hiring teams; and
- Make sure your on-site interview digs into the specialized and advanced problem-solving skills required for mid- and senior-level roles.

The graphic below provides an overview of these best practices for each stage of the funnel:

The Tech Recruiting Funnel

Junior-level

Research-backed skills screening

Relationship building

Troubleshooting skills & team fit

Mid- to senior-level


Initial screen & relationship building


Structured technical screen


In-depth problem-solving skills

Offer Stage

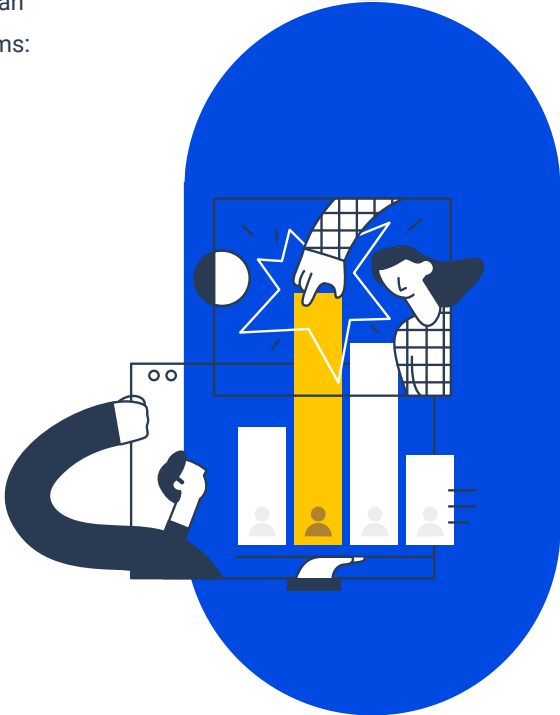
When you optimize your recruiting funnel for technical hiring, you can expect to see benefits for both your recruiting and engineering teams:


Reduced time spent screening and interviewing unqualified candidates


Reduced bias by using objective, structured, and research-backed skills screening solutions


Increased quality of candidates in your talent pipeline


Improved candidate experience and offer acceptance rates for technical hires at every level



Ready to become a recruiting changemaker at your organization?

Talk with our technical recruiting experts to quantify the savings your organization can expect by implementing best practices for technical hiring:

hello@codesignal.com

Appendix

References and resources

Want to learn more about best practices for developer recruiting and interviewing? Check out the research below that informed our best practices.

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