



# 2025 Developer Skills Report

Inside the developer hiring, AI, and upskilling trends shaping 2025.

# Introduction

HackerRank is built on a simple idea: skills should matter more than pedigree. We help companies hire and grow developer talent based on real ability, not resume keywords, and champion a community of 26+ million developers pursuing their full potential. Each year, we survey that community to uncover the trends and challenges that shape reports like this one.

Hiring is up, yet 74% of developers still struggle to land jobs. The disconnect isn't about demand; it's about how companies hire, evaluate, and retain talent. Early-career developers have been hit the hardest, with junior hiring lagging behind as companies prioritize experienced talent. And even after getting hired, 40% of developers plan to leave within a year, driven by pay, career growth, and a search for meaningful work.

At the same time, AI is reshaping development and redefining performance. It's making developers faster—but not equally. The gap between casual AI users and deep adopters is growing, with heavy AI users reporting significantly higher productivity gains. Meanwhile, 67% of developers say AI has increased pressure to deliver faster, and leaders are raising expectations at an even higher rate.

With AI, developers finally have widespread access to the kind of learning that has never been practical at scale before: highly contextual, personalized tutoring. For the first time, developers can follow custom learning paths that adapt and grow with them. As with every major shift in technology, early adopters blaze the trail, and systems evolve in response. Developers are leading the way, but the companies that adapt quickly and embrace these new approaches will be the ones that attract, grow, and retain top talent.

**This report breaks down what's working, what's broken, and what companies need to rethink in 2025.**

# Executive Summary

**Hiring is up, but job searching is still tough—especially for early-career developers.** 74% of developers struggle to land jobs despite rising demand. Resume filters, slow processes, and leetcode-style tests that don't reflect real-world skills create friction and frustration, while junior hiring lags companies prioritize experienced talent.

**Developers aren't waiting for companies to invest in them.** 40% plan to leave within a year, prioritizing career growth and skill development. Without clear learning opportunities, companies risk losing talent—especially as AI makes self-driven upskilling easier than ever.

**AI is accelerating work—but not equally for everyone.** 97% of developers use AI, but deep adopters see greater gains while casual users lag behind. Nearly a third of code is now AI-generated, and companies expect faster output—raising pressure that developers may struggle to match.

**Too many hiring tests don't reflect real work.** 66% of developers prefer practical coding challenges, but outdated algorithmic tests persist. AI is making it easier to game assessments, raising fairness concerns—73% say it's unfair to lose out to AI-assisted candidates. Employers recognize the problem, but change is slow.

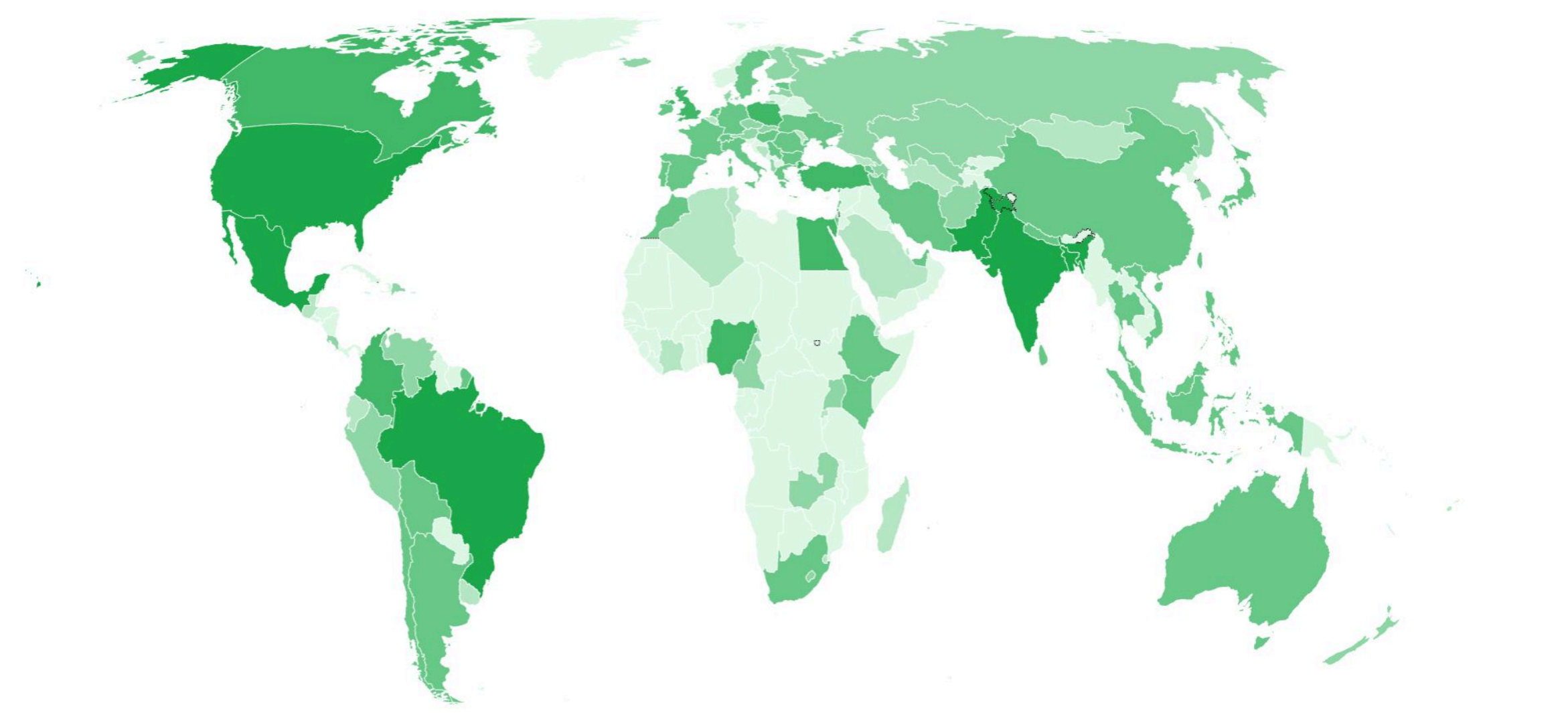
**Developers want visibility, but hiring friction is the bigger issue.** Open-source contributions, hackathons, and community engagement help attract talent, but AI-flooded pipelines and slow, complex hiring processes make it harder to connect with the right candidates. Too many developers filter out or drop out long before the offer stage.



# Methodology

The HackerRank 2025 Developer Skills Report is based on two proprietary data sources: aggregated platform insights and a global developer survey. With a global community of 26 million developers and data from over 3 million assessments per year, we have a uniquely comprehensive view of how developers learn, work, and get hired.

**We surveyed developers around the world 13,372 developers in 102 countries**  
from Afghanistan to Zambia



Source: HackerRank Developer Skills Survey

**This report combines these two sources to offer a data-driven look at the developer skills landscape in 2025.**

**HackerRank Platform Data**

Our platform captures millions of developer interactions each year. Unlike surveys that capture intent, platform data shows what developers actually do—how they engage with skills assessments, what they’re tested on, and how hiring behaviors evolve. For this report, we analyzed metrics like test invites, attempt rates, and active assessments to uncover hiring and skills trends.

**Developer Skills Survey**

We also surveyed 13,732 developers, engineering managers, recruiters, executives, and students across 102 countries in Q4 2024 and early 2025. This survey reveals how these groups think about their careers, learning, and the hiring process—giving critical context to the behavioral insights from our platform data.

Insight #1

# Tech hiring is back, but landing a job still feels impossible

**Hiring is up, but finding a job isn't easier.** 74% of developers still struggle to land roles.

**The hiring recovery favors senior talent.**  
Junior hiring remains weak.

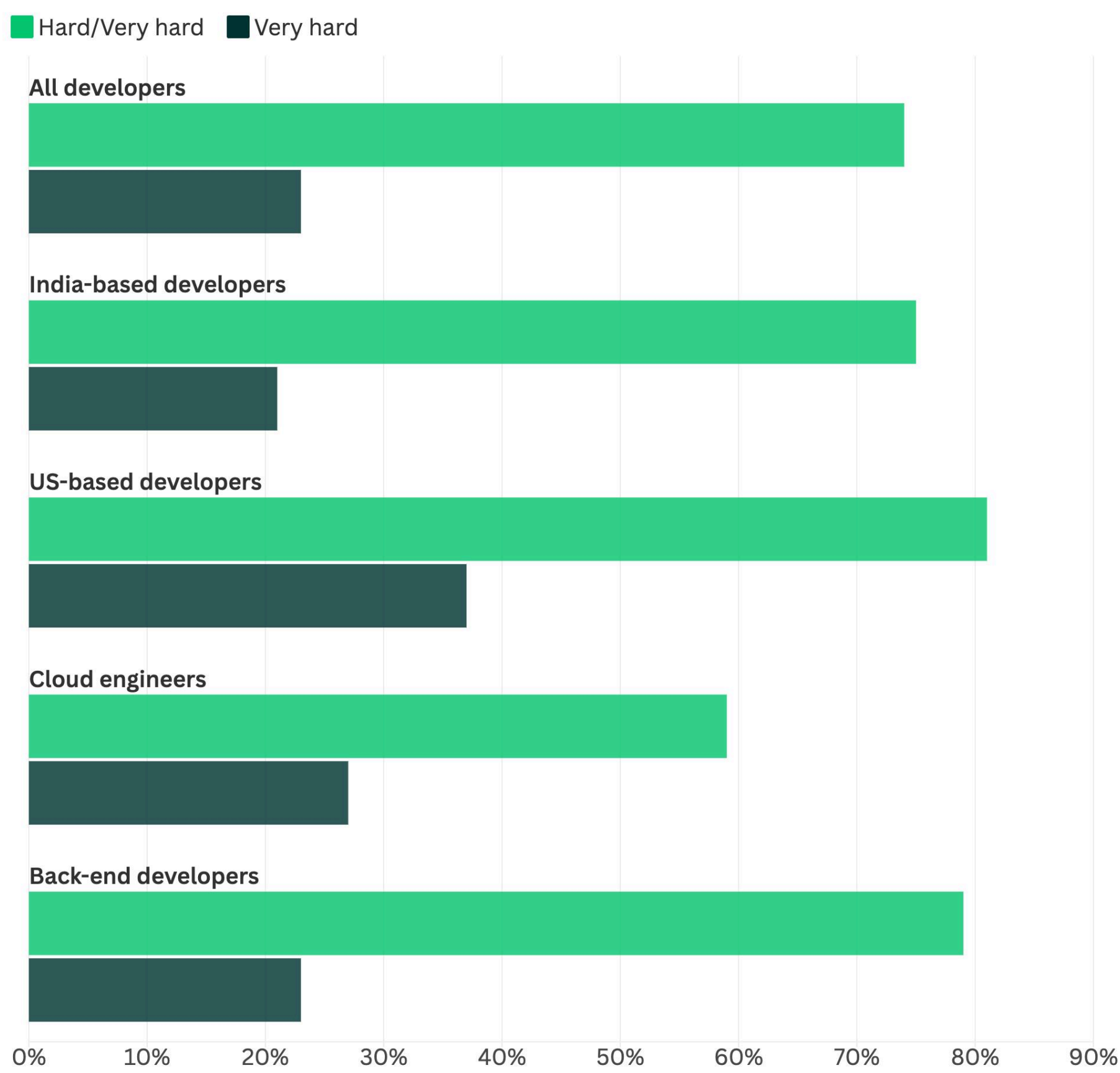
**Developers are frustrated by hiring friction.** From ghost jobs to slow responses and assessments that don't reflect real-world skills.

**This is a moment to lead.**  
Forward-thinking companies can transform hiring into a competitive edge.

# Three out of four developers say it's still hard to land a tech job

Despite improving conditions and a rebounding hiring market, 74% of developers say finding a job remains difficult. Just how difficult varies by geography, experience level, and role. For example, US-based developers report greater struggles, while a comparatively low 59% cloud engineers say the job search is hard. More companies are hiring, but that hasn't made the job search any easier for developers. Many still face long waits, unclear expectations, and barriers that feel disconnected from their actual skills.

## 74% of developers say it's hard or very hard to land a tech job today



The issue isn't a lack of roles—it's **how hiring happens, especially for early-career developers.**

Source: HackerRank Developer Skills Survey


# Developers are frustrated by the layers of friction in hiring

The job search isn’t just about finding open roles—it’s about navigating the barriers between developers and offers.

- **Ghost jobs waste time.** Developers apply for roles that don’t actually exist, never get filled, or vanish without explanation.
- **Resume filters block strong candidates.** With AI-generated resumes flooding applications, companies rely on screeners—but strong developers can get lost in the process.
- **Companies take too long to respond.** Many candidates wait weeks for updates—or get ghosted entirely.
- **Hiring processes are a mess.** Too many rounds, unclear expectations, and inconsistent evaluations make it hard to know what companies actually want.

Even as hiring picks up, these challenges make landing a job harder than it should be. But they also highlight exactly where companies can improve.

# Hiring recovery favors senior talent

Hiring signals, such as test invites, are up across the board, but growth in 2024 skewed toward senior roles. Companies are expanding their developer teams, yet early-career hiring remains sluggish compared to senior- and lead-level roles.

## Year-over-year, hiring activity for:

- **Lead developers** is up 22%
- **Senior developers** is up 19%
- **Junior developers** is up just 9%
- **Entry-level hiring** is nearly flat at 7%

## Hiring activity favored senior and lead roles in 2024



Early-career developers are still feeling the aftershocks of 2023’s hiring downturn, when their roles were among the hardest hit.

Source: HackerRank Platform Data



What’s behind this lag in early-career hiring? While we don’t have the data to point to a single, definite cause, several possible factors come to mind:

- **Cautious recovery** — Companies may be prioritizing experienced talent they can build teams around
- **AI impact** — A fundamental shift may be underway as AI reshapes junior developer responsibilities
- **Concerns about coding ability** - Employers may be hesitant to hire because they’re unsure early-career developers can code without heavy AI assistance.
- **Higher expectations** — Companies are seeking hires who can deliver immediate value, rather than investing in junior training.

These trends raise important questions about the long-term health of the developer pipeline—and whether companies are setting themselves up for future talent shortages.

# What this means for hiring

Hiring is picking up, but developers aren’t feeling it. If there are more jobs, but the job search remains just as tough, the problem isn’t the market—it’s the hiring process. Outdated hiring practices that create unnecessary friction, particularly for early-career talent.

**As hiring continues to recover, companies have an opportunity to rethink how they evaluate and engage developer talent.**


## Insight #2

# Developers aren't just working jobs. They're building careers.

**Developers prioritize career growth and staying ahead of new technologies.**

Adaptability is key.

**Why developers leave.**

—Low pay, lack of growth prospects, unchallenging work.

**40% of developers plan to leave within a year.**

They won't wait for companies to invest in them.

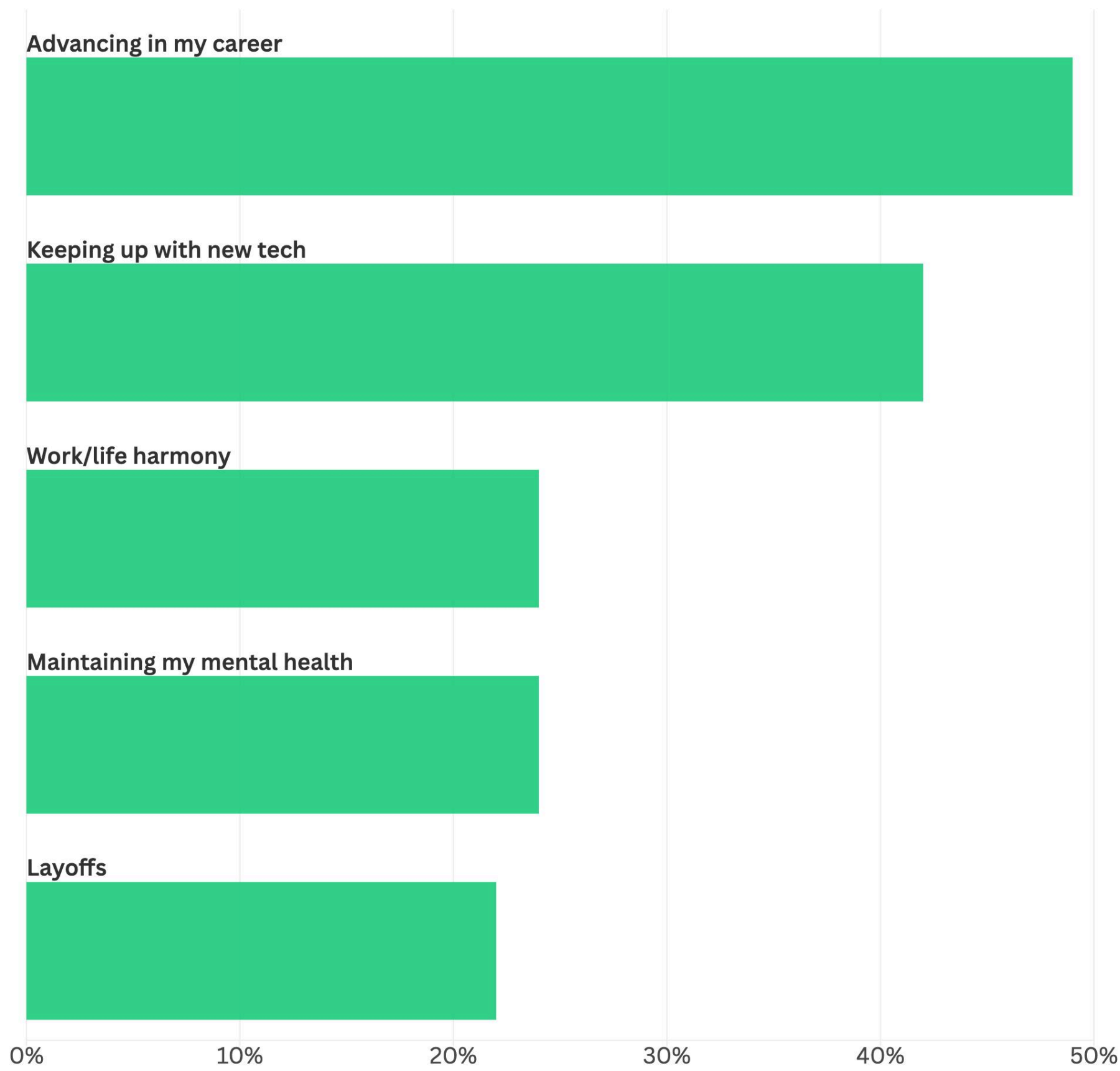
**If companies don't invest in developers, developers invest in leaving.**

# Developers prioritize career growth and keeping up with new technologies

Developers are thinking beyond the job they’re in: their biggest concerns in 2025 are advancing their careers and keeping up with new tech. AI and other advances are shifting what it takes to stay competitive, and developers know they can’t afford to fall behind.

Work-life harmony, mental health, and layoff concerns still matter, but they take a backseat to growth and adaptability.

## Developers' biggest concerns in 2025



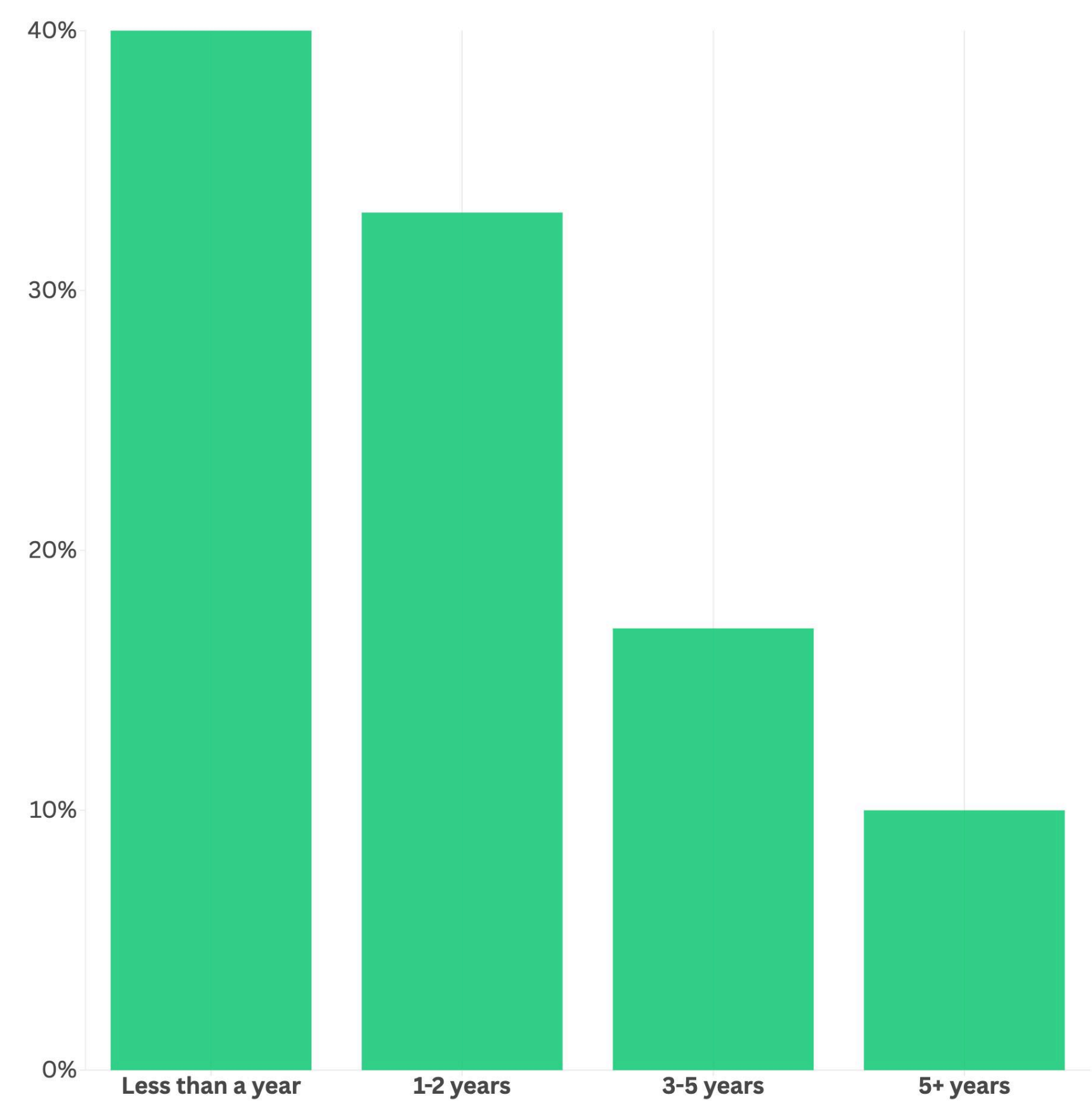
Even as hiring rebounds, 34% of US-based developers remain concerned about layoffs, underscoring the lasting impact the recent waves of tech layoffs have had on many.

Source: HackerRank Developer Skills Survey

# 40% of developers plan to leave this year

4 in 10 developers plan to leave their current company within a year, and only 27% expect to stay beyond two.

## How long do you plan to stay at your current company?



Even as hiring rebounds, 34% of US-based developers remain concerned about layoffs, underscoring the lasting impact the recent waves of tech layoffs have had on many.

Source: HackerRank Developer Skills Survey

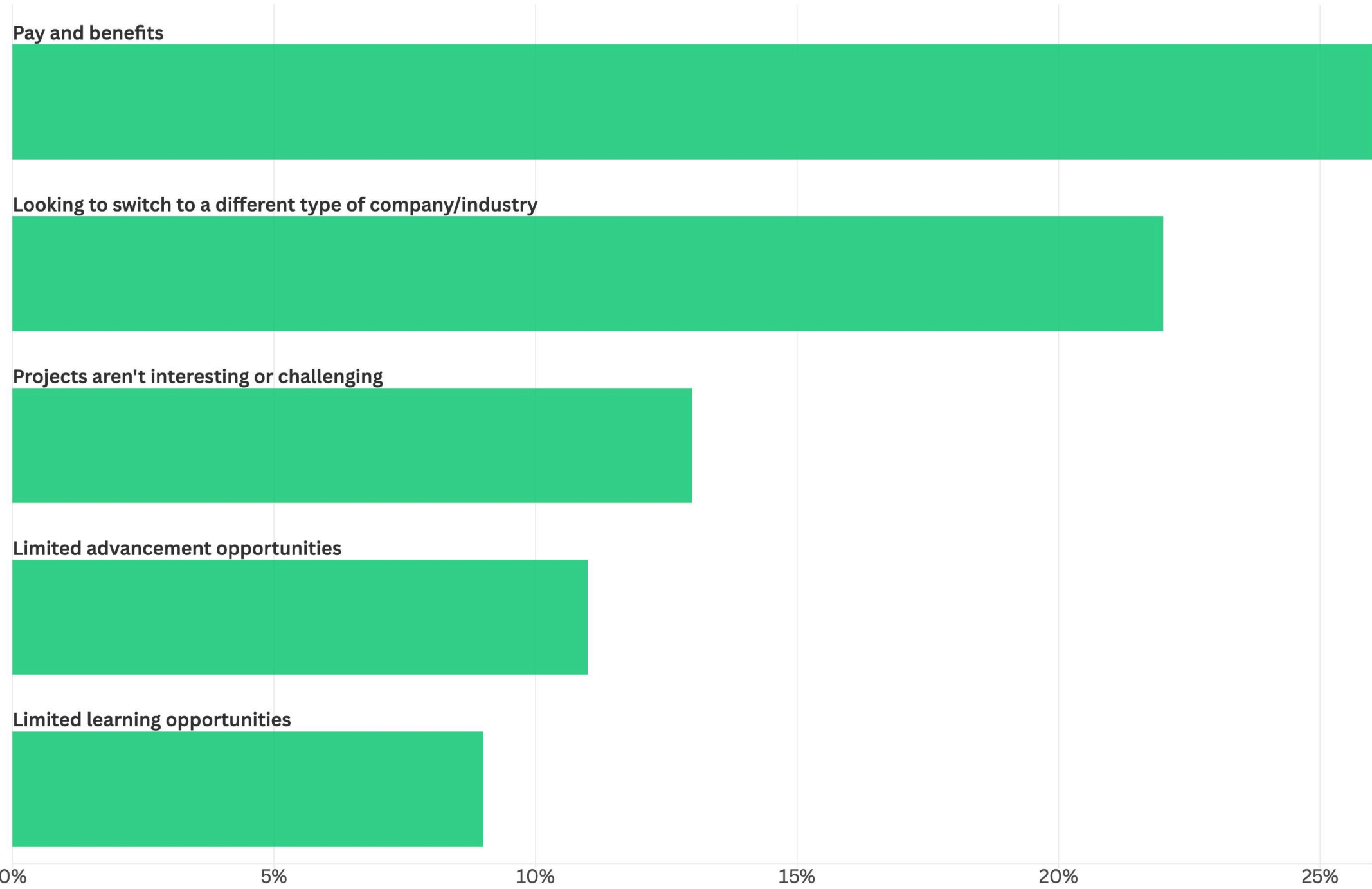
# Pay them, challenge them, or lose them

We followed up with developers to understand what’s driving them to leave:

- **Pay comes first.** If compensation isn’t competitive, nothing else matters.
- **Many are done with their industry.** Developers aren’t just switching jobs—they’re switching fields.
- **Unsatisfying work drives developers out.** No challenge, no innovation, no reason to stay.
- **No growth, no future.** If they can’t advance, they’ll move on.

The takeaway? If companies don’t invest in their developers—whether through pay, career growth, or meaningful work—developers will invest in themselves. And that may well mean leaving.

## Top reasons developers plan on leaving



Source: HackerRank Developer Skills Survey



# Conclusion

AI is already transforming software development, and we're still in the early stages. The role of a developer isn't disappearing, but it is evolving—just as it has with past technological shifts. As we race toward a future that's human + AI, companies must rethink how they attract, hire, and upskill talent.

The hiring process that's been stitched together over time is straining under the mass adoption of AI and the realities of the 2025 job market. Solutions that were “good enough” even two years ago no longer are. Developers are already adapting to this changing world, and companies need to as well. Those that don't will struggle to hire and retain top talent.

## Here's what needs to change:

**Attracting developers starts before the job post.** The best candidates don't just apply—they engage. Companies that contribute to open source, support developer communities, and host hackathons stand out by giving developers something to engage with.

**Hiring must focus on the right skills—and the right way to evaluate them.** Companies need to be deliberate about what they're testing and how. Assessments should reflect the actual job, not just what's easiest to measure. If developers could fix one thing about hiring, it would be replacing algorithm-heavy tests with real-world projects that show how they solve problems in practice.

**AI is reshaping how developers learn, but its role in company-driven upskilling is just beginning.** AI enables more flexible, personalized learning, but companies need to connect it to measurable outcomes. Using AI-driven learning alongside assessments, certifications, and structured skill development will create stronger, more skilled teams.

Developers are already adapting. The companies that evolve with them—the ones that rethink hiring, invest in learning, and build real developer engagement—will be the ones that win in 2025.

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