

# **STATE OF THE AMERICAN JOB SEEKER: AUTOMATION, AI AND TECHNOLOGICAL CHANGE**



**ZipRecruiter®**

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# INTRODUCTION:

As artificial intelligence (AI) and automation technologies continue to advance, the future of work is a concerning topic for many. Technological advancements continue to reshape and disrupt the workplace, at a dizzying and seemingly accelerating pace. While some see these changes as a direct and growing threat to American jobs, others view them as means to increase work productivity, and thus a positive step for economic growth.

Fearful headlines about robots are not in short supply as we enter 2018. And it doesn't stop with the topic of potential job loss; the billionaire futurist and industrialist Elon Musk has famously called AI humanity's [biggest existential threat](#). "AI will be so smart that it can and will result in dangerous situations," [he grimly said on stage at the World Government Summit in Dubai](#). In fact, [Forrester](#) predicts that **AI-enabled automation will eliminate 9% of US jobs in 2018** alone and a report recently distributed by [McKinsey](#) predicted that automation may wipe out 1/3 of America's workforce by 2030. No wonder many have a general anxiety about robots, jobs, and what it all might mean for the future of work.

Others experts - many of them economists - take an opposing and more optimistic view, citing historical cases of technological change and the impact of that change on labor economies. In a 2017 [study](#), Robert D. Atkinson and John Wu write that "such grim assessments are the products of faulty logic and erroneous empirical analysis, making them simply irrelevant to the current policy debate" -- before calmly walking the reader through 165 years' worth of history on the topic. Using data, they point out that while many perceive the rate of job churn (that is, the creation of new jobs while old ones are made irrelevant by technology or other changes) to be higher than ever, in reality that rate is historically low.



## So, how does ZipRecruiter fit into all of this?

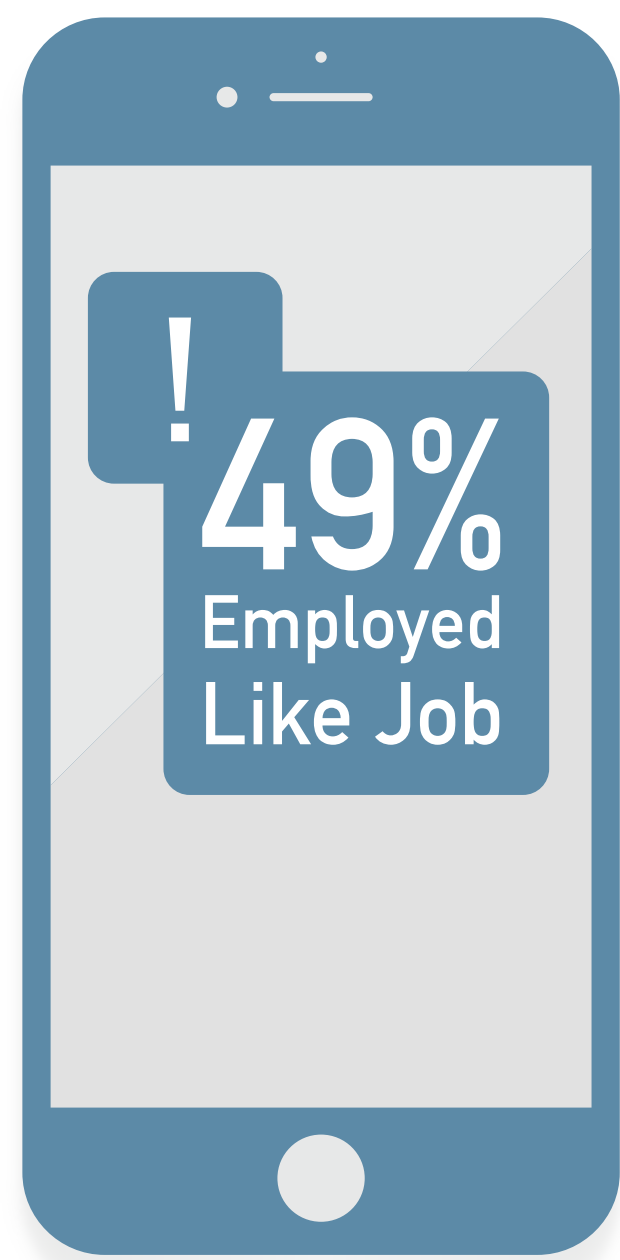
Since our founding seven years ago, **ZipRecruiter's** goal has been to help people find meaningful work, and to help employers make successful long-term hires. We speak to job seekers and employers every day, and we're acutely aware of their concerns. That's why **ZipRecruiter** engaged Harris Poll to conduct an online survey to understand the current state of the American job seeker (both employed and unemployed): their current satisfaction level with the job market, their feelings about technological advancements, and, of course, their take on automation and what it might mean for them. We did this to ensure that job seekers, employers, business leaders and their peers understand and can adapt to the changes impacting the jobs market - both now and into the future.

This report confirms our predictions. Job seekers view technology as a mixed bag of benefits and risks and they are only somewhat informed on the topic of automation. In our view, education, training and a dose of humanity will help reduce individual Americans' risk of job loss to automation.

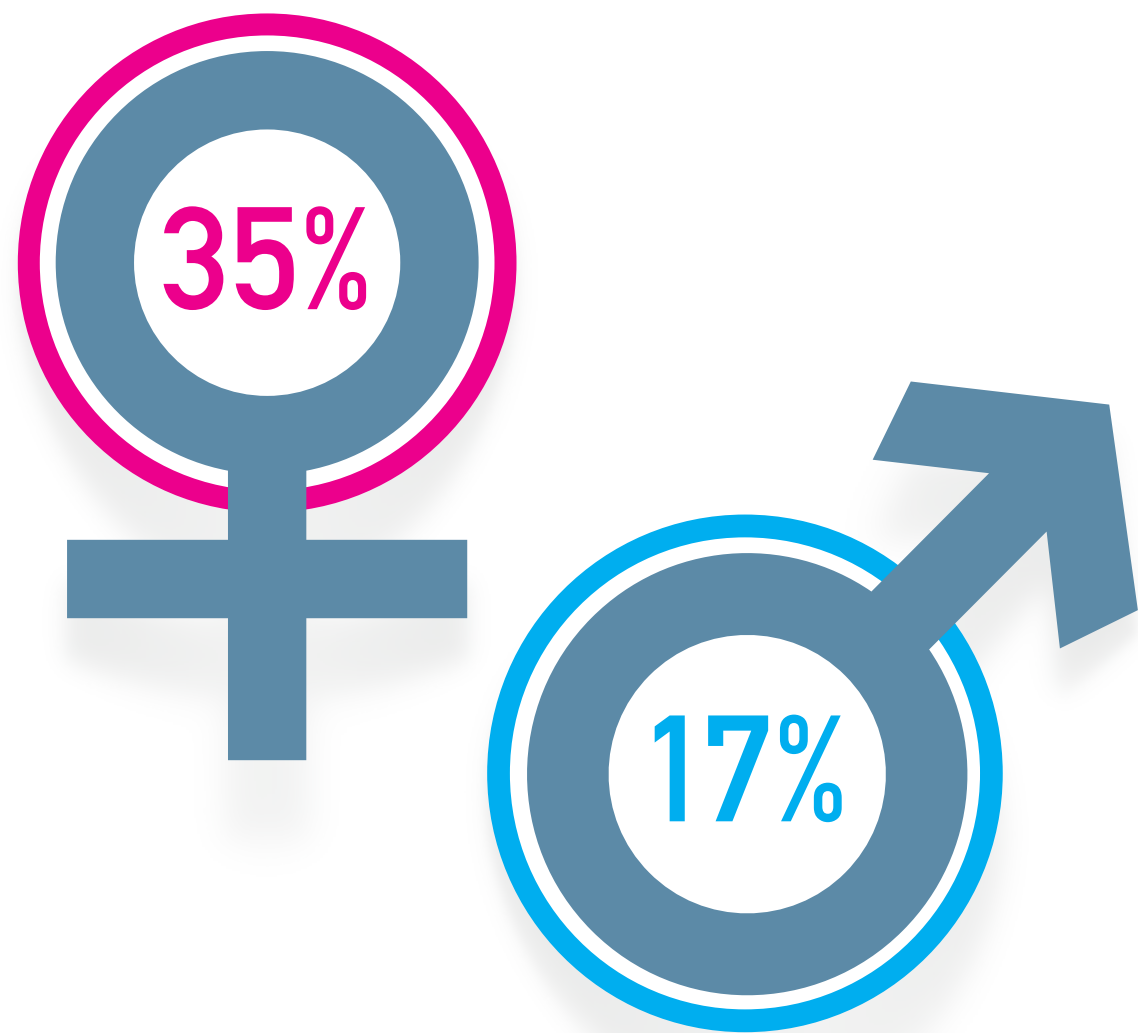


# HIGHLIGHTS:

Many Americans who are actively looking for a new job are genuinely happy at their current jobs.

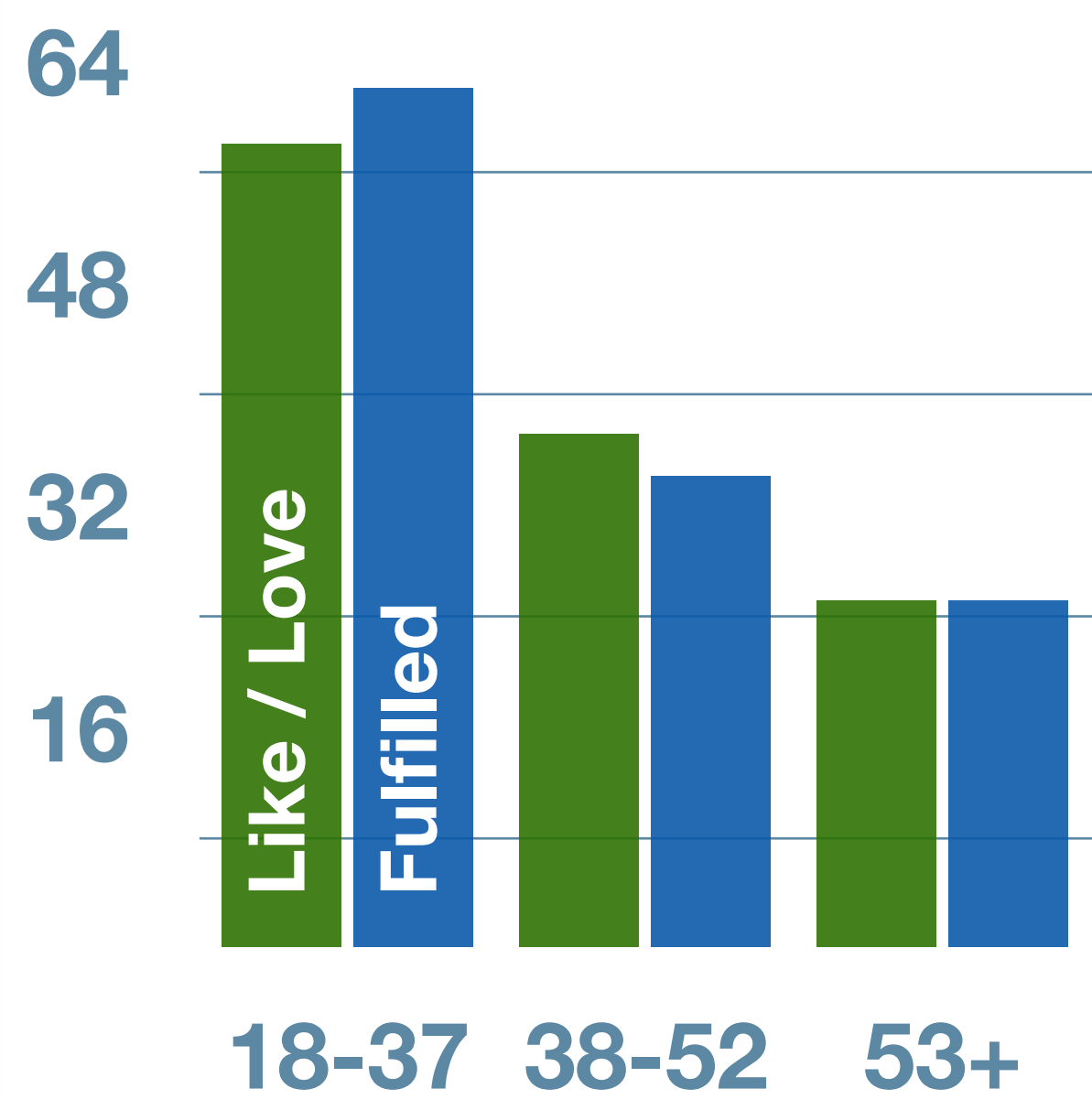


● *Job seekers aren't settling.*  
**49%** of employed job seekers say they love or like their current job.



Dislike / Hate Job

● *The gender gap goes beyond pay.*  
Women (**35%**) are twice as likely as men (**17%**) to “dislike” or “hate” their job.

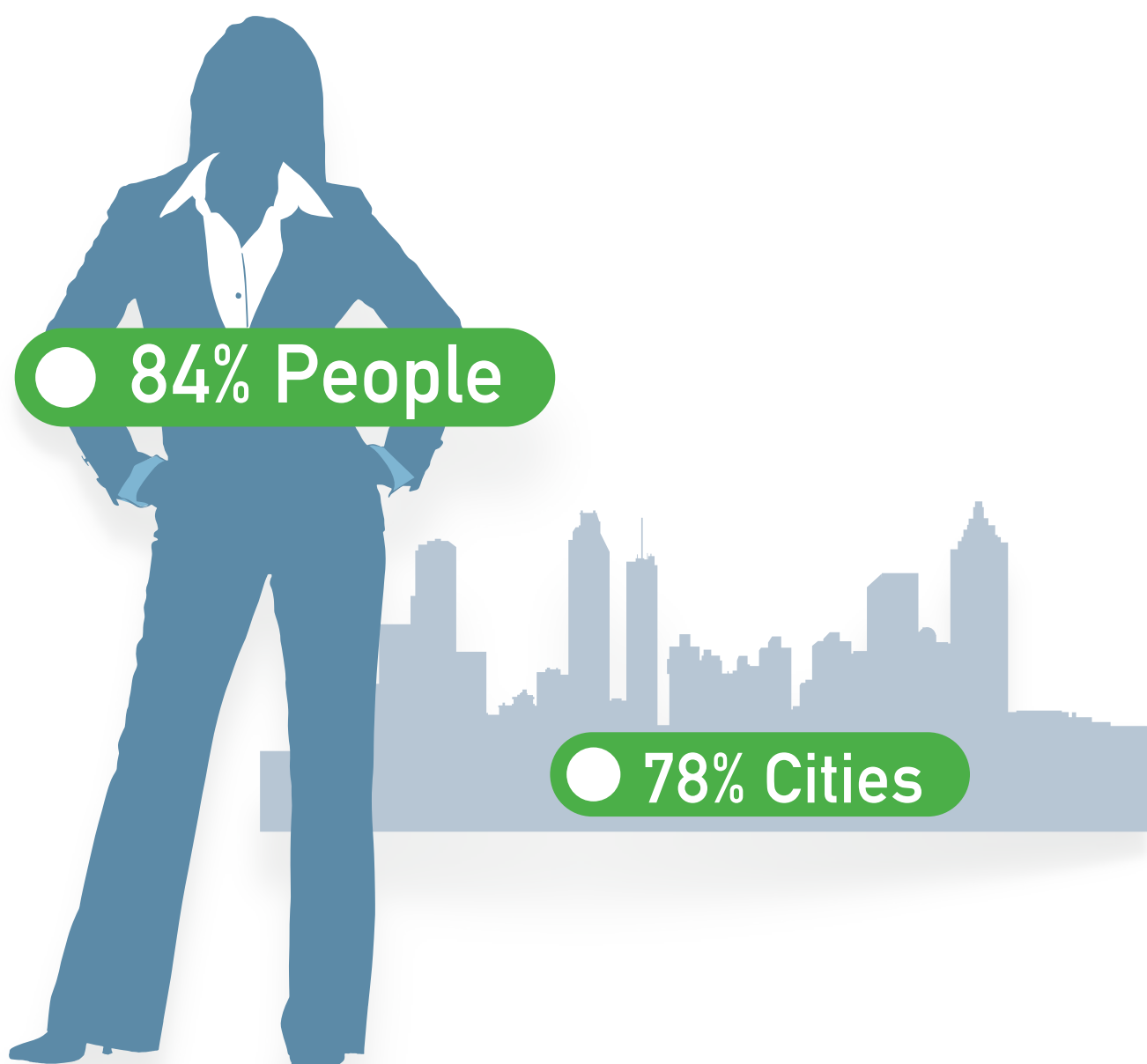


● *The generational divide.*  
**58%** of millennials (ages 18-37) “like” or “love” their job, and **62%** say they are “fulfilled,” compared with **37%** and **34%** of gen Xers (ages 38-52) and **25%** and **25%** of baby boomers (ages 53+), respectively.

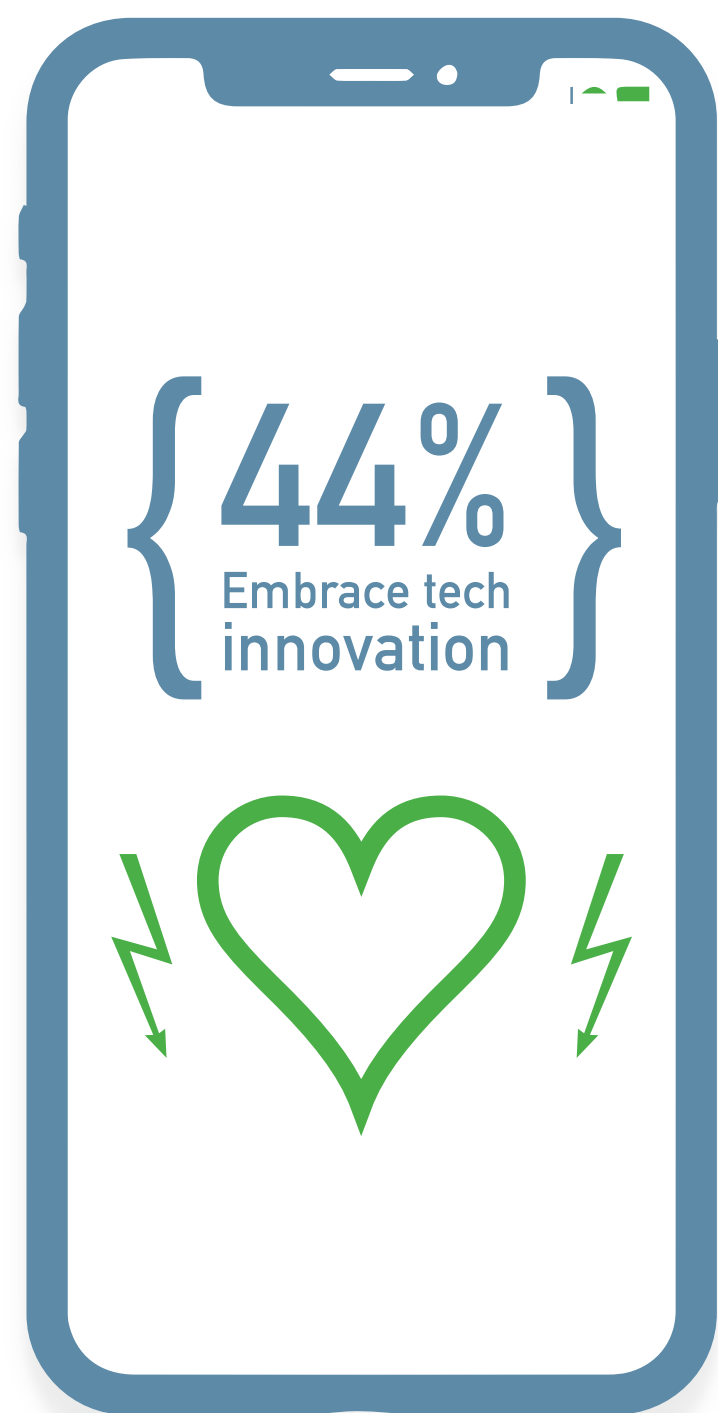
● *Is tech to blame?*  
Half of job seekers (**50%**) say the introduction of the Internet has generally done more harm than good. Employed job seekers are more likely to agree with this sentiment than unemployed job seekers (**53%** employed vs. **40%** unemployed).



● *People feel left in the dust.*  
More than 4 in 5 job seekers agree that the current technology boom has left certain people (**84%**) and cities (**78%**) behind.



● *Embracing innovation.*  
More than 2 in 5 job seekers (**44%**) believe there is no such thing as a bad technological advancement.





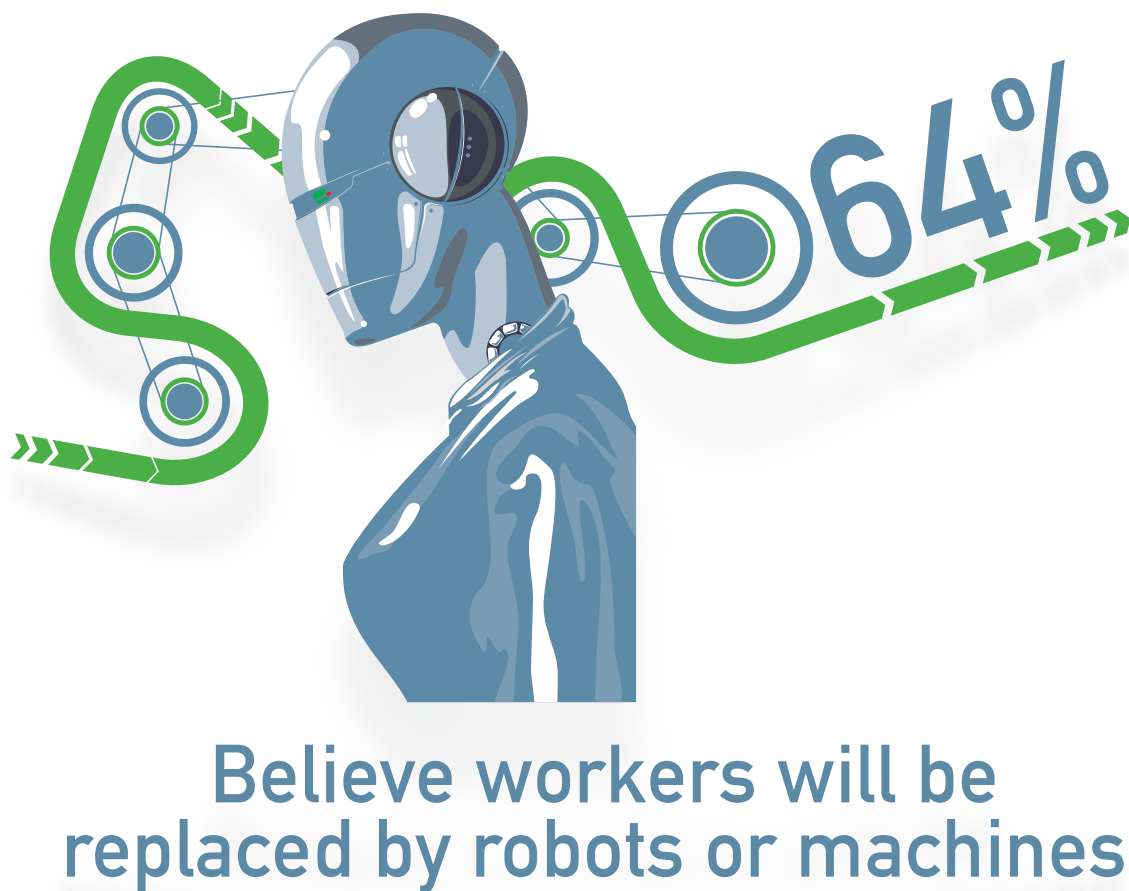
# HIGHLIGHTS:

Job seekers don't fully understand automation and the risks that accompany it.

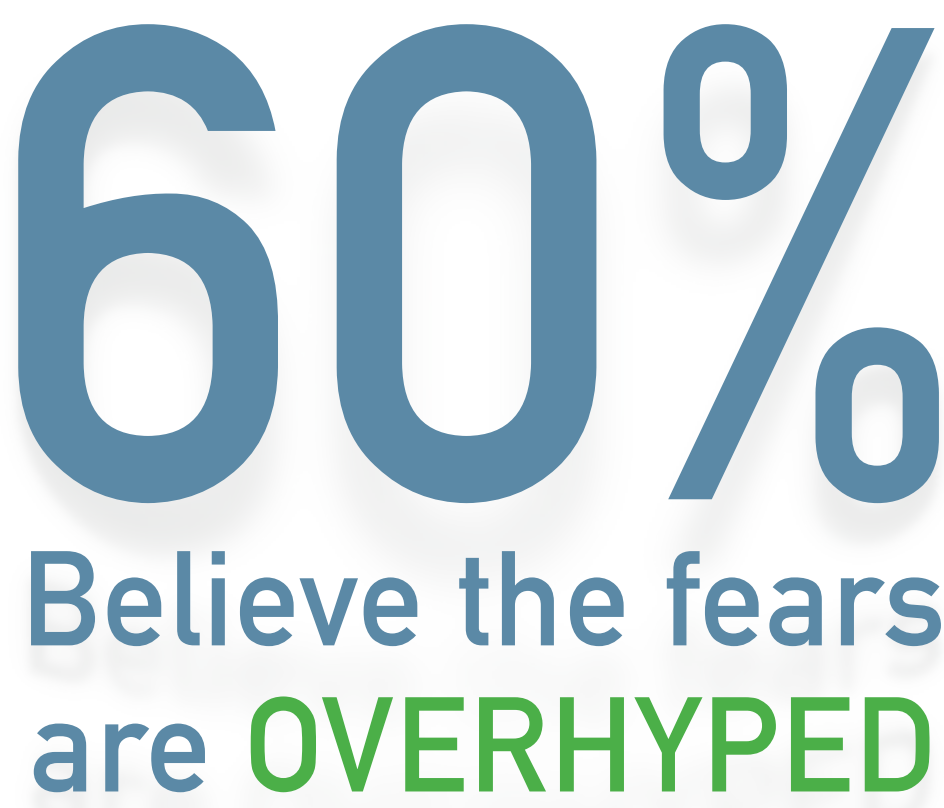
- Partial understanding. While most job seekers have heard of the term “job automation” (77%), less than 1 in 3 (30%) have an actual understanding of the term saying they are very familiar with it.



- Taking humans out of the equation. Nearly 2 in 3 job seekers (64%) believe workers in most industries will be replaced with computers or robots in their lifetime.



- People aren't convinced. 60% of job seekers believe that fears around robots taking away jobs are overhyped.



There still isn't a universal lesson for job seekers of tomorrow.

- Soft skills are more common. 50% of job seekers reported having science, technology, or engineering skills while 79% of job seekers have soft skills.



- One-two punch. 47% of job seekers have both soft and STEM skills.



- Back to school. Affordability is the main hurdle when it comes to workers making investments in new skills, 67% of job seekers who don't currently have these skills but are making an effort to obtain them are relying on self-training to acquire STEM skills (vs. 60% for soft skills).





# STATE OF THE AMERICAN JOB SEEKER:

As part of this survey, we took a look at the following:

- Why are job seekers unhappy at their current job?
- What are they looking for in their next job?
- Are employees at higher positions happier than those who aren't/don't have necessary degrees?

Overall, Americans who are actively looking for a new job like or love their current job. Perhaps this is because they are hopeful that the grass is greener elsewhere.

**68%** of employed job seekers believe that the type of jobs available today are better than what was available in the past, while **55%** of unemployed job seekers agree with the above statement.

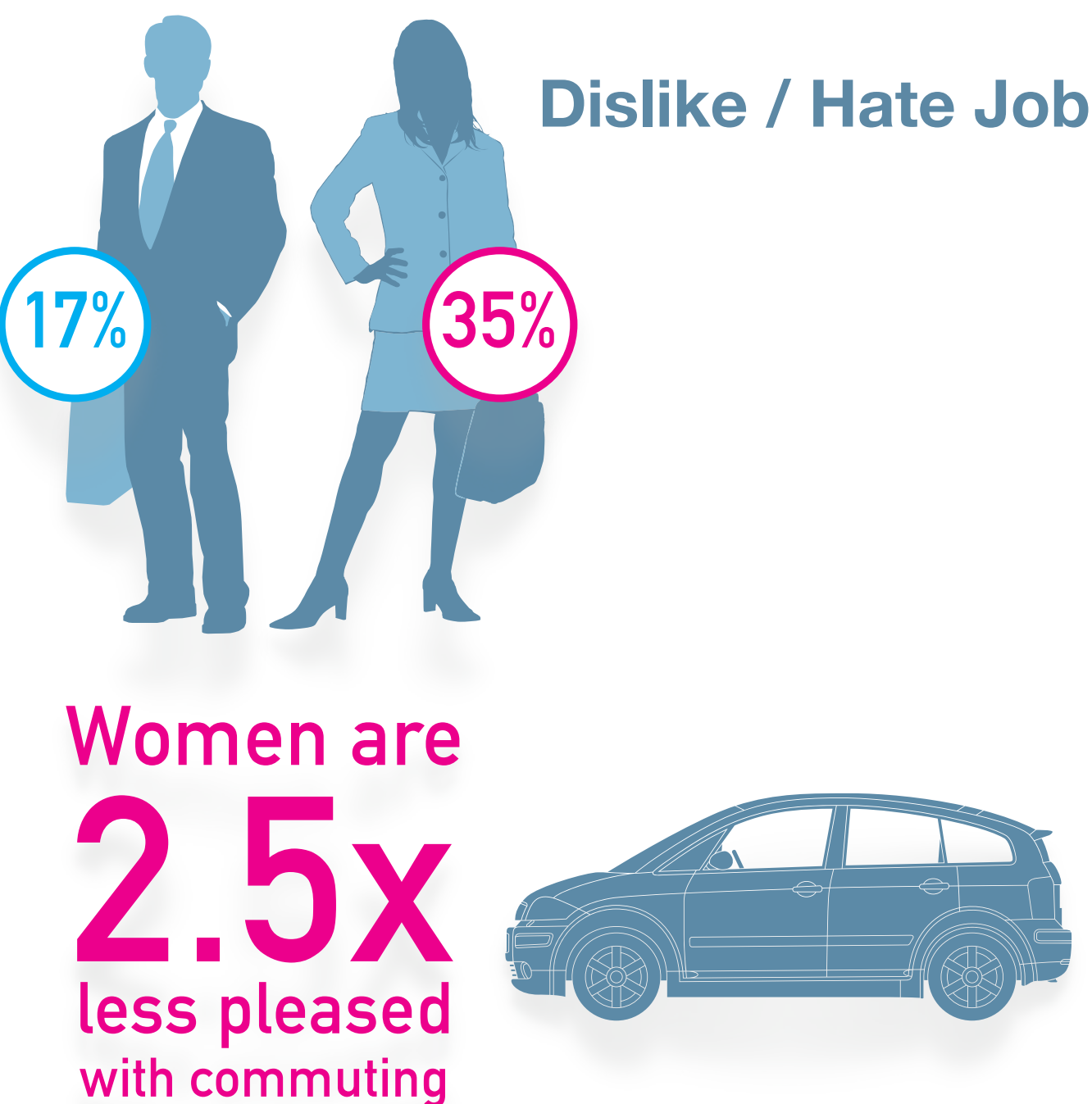
*In other words: those people want a better job.*

Of job seekers who are currently unemployed, 1 in 5 (**21%**) say the reason they are unemployed is because they voluntarily quit their last job to find a better one. What can keep employees from job searching? Our report found that job seekers are dissatisfied with their jobs for multiple reasons:

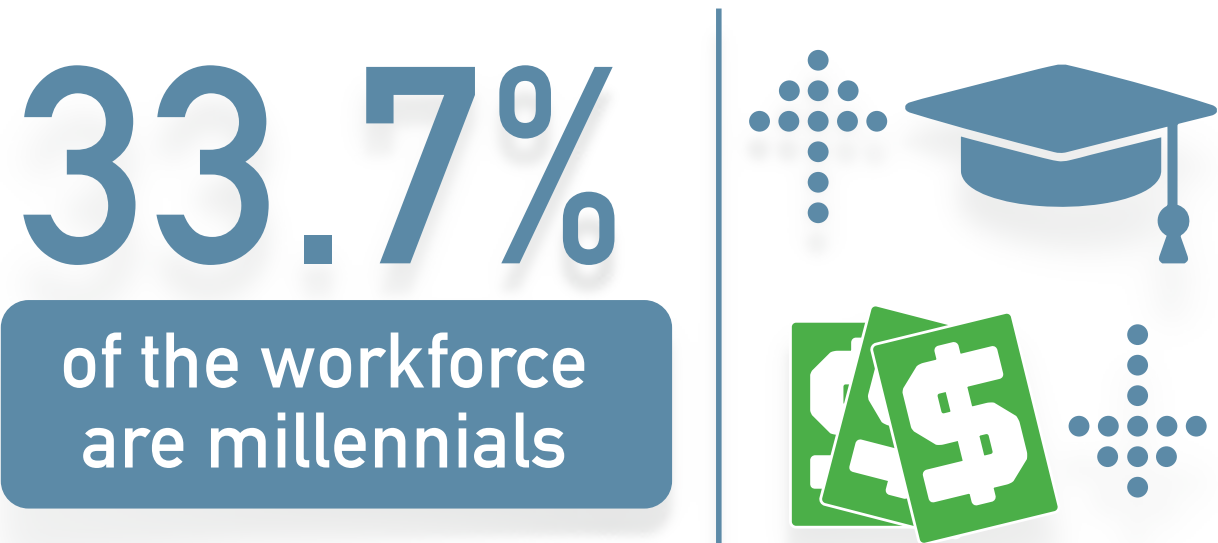
- More than 2 in 5 employed job seekers who reported not liking or loving their job say it's due to bad management (**47%**), no room for growth (**46%**), or boring and unfulfilling work (**42%**) -- along with poor benefits (**36%**), bad commutes (**20%**) and demanding physical labor (**17%**).

{ Over half of employed job seekers (**54%**) say low pay is a reason they dislike their jobs }

Job satisfaction and fulfillment differs by age group, educational attainment, position level and by region. This survey found that men are happier than women in the workplace - **35%** of women are more likely to say they hate or dislike their job vs. **17%** of men. Few differences were found between men and women in terms of reasons for not liking or loving their job - "bad commute" was the only significant difference where women were 2.5x more likely to cite that as a reason compared to men (**27%** compared with **11%**).



According to figures released by the U.S. Bureau of Labor Statistics in October 2017, Americans between the ages of 20 and 34 – millennials – now make up the largest generation in the workforce at roughly one-third (**33.7%**) of the U.S. total population. However, despite being better educated than their predecessors, millennials earn considerably less than older generations when adjusted for inflation. Earlier this year, the U.S. Census Bureau reported that the median personal income for workers between the ages of 25-to-34 was **\$35,000 in 2016**, compared to **\$37,000 in 1975**.



Our report found that 3 in 4 millennial job seekers (**75%**) believe that the quality and quantity of jobs today are higher than in the past. Their reasoning may be twofold: The things they value in a job are much different than older generations, and they also have different skills than older generations. As a result, they may feel that more jobs are accessible to them - e.g. being well-versed in how to use a computer and the internet are musts for many jobs.





# TECHNOLOGICAL ADVANCEMENTS:

## Job seekers are feeling burned by advancements in technology.

A notable **84%** of job seekers believe the technology boom has left certain people behind while **78%** believe the current technology boom has left certain cities behind.

Nearly half of job seekers (**49%**) believe technological advancements have negatively impacted their own career and **66%** believe these advancements have negatively impacted their town. Breaking this down by age and region, millennials (**69%**), VPs/senior managers (**82%**) and those living in the West or Midwest (**77%** and **72%** respectively) were most likely to say that technology had negatively impacted their town.

- **Millennials 69%**
- **VPs/senior managers 82%**
- **and those living in the West or Midwest 77% and 72% respectively** were most likely to say that technology had negatively impacted their town.

When it came to impact on their own career, the following groups of job seekers were most likely to report negative impacts due to technological advancements:

- **VPs/senior managers:** 77% (vs. 57% middle management and 38% of entry-level workers)
- **Those living in the West:** 62% (vs. 47% living in the East; 46% living in the South, and 43% in the Midwest)
- **Job seekers with a master's degree or higher:** 60% (vs. 49% with a bachelor's degree and 46% with an associate's degree or lower)
- **Millennials:** 56% (vs. 41% of gen Xers and 37% of baby boomers)
- **Employed job seekers:** 53% (vs. 40% of unemployed job seekers)

**While this seems surprising on its face -- we might think that unemployed individuals are more likely to have been negatively impacted -- this data could indicate that much of the impact comes in the form of increased workplace competition, according to ZipRecruiter's Chief Economist Cathy Barrera.**

Half of job seekers (**50%**) believe that the introduction of the Internet has done more harm than good. Out of that group, those who are employed, those who are male, or are male millennials are more likely than their respective counterparts to say tech advancements have negatively impacted their town or career a great deal.

Why do they feel this way? **44%** of job seekers who say technology advancements have negatively impacted their career said they have needed more training to use new technologies and **34%** believe their pay is being undercut by lower-cost, automated technology options. The survey also found that **26%** of job seekers who believe that technological advancements have

negatively impacted their career have been laid off from a retail company who has been hurt by e-commerce/online retailers.

The gig economy may also be to blame. **21%** of job seekers who say technology advancements have negatively impacted their career point to app-based services (such as Uber, Lyft, TaskRabbit and others), as a negative element of their current career. Still, more than 2 in 5 job seekers (**44%**) believe there is no such thing as a bad technological advancement. Several subgroups are more likely to agree with this sentiment, including:

- **Employed job seekers (49%)**
  - **Men (51%)**
  - **Millennials (52%)**
  - **White collar workers (55%)**
- and those in
- **VP/senior management positions (79%).**

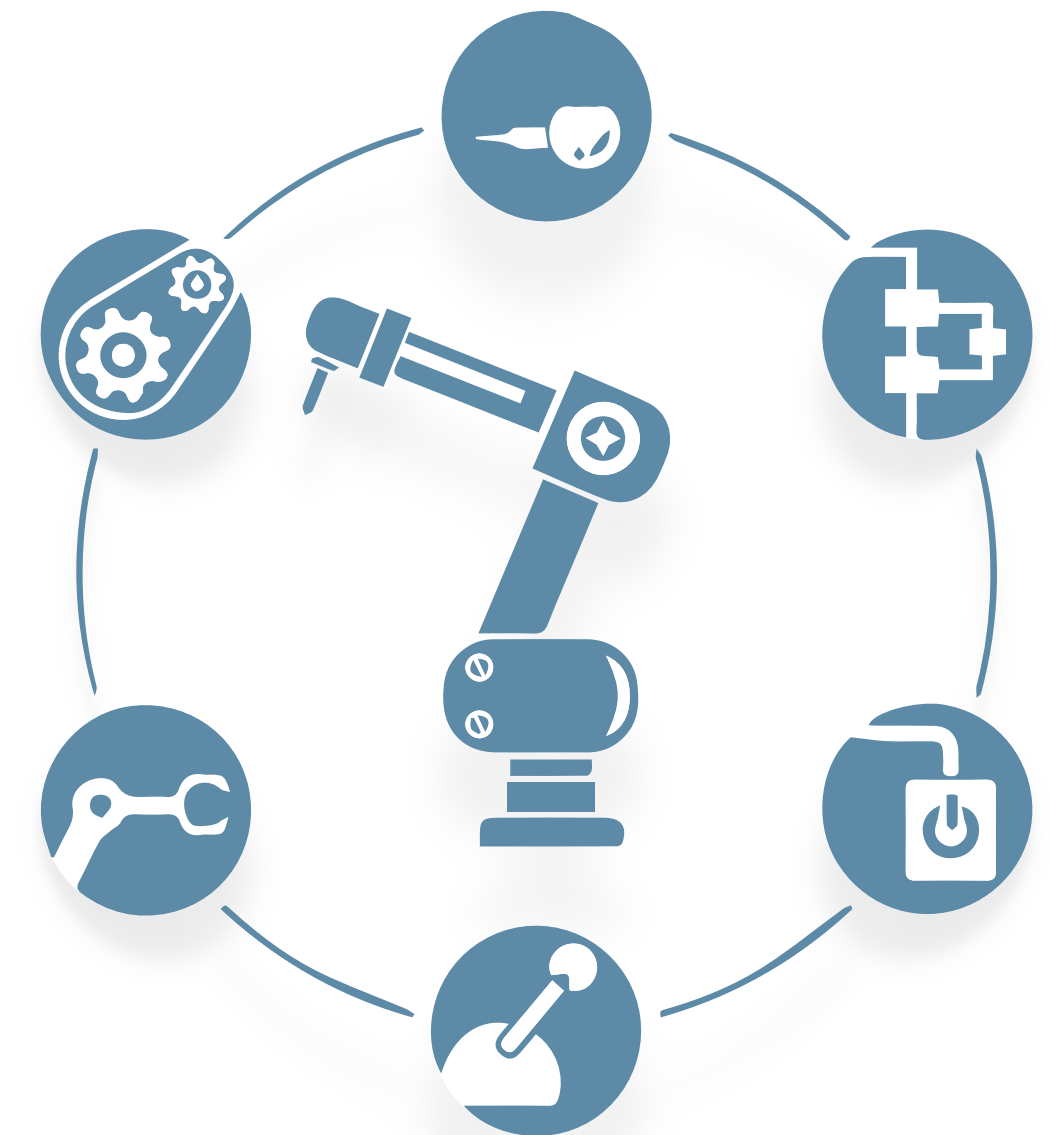
What technological advancements have made the world a better place? Air conditioning (**66%**), the smallpox vaccine (**64%**), smartphones and MRI scans (**63%**) topped the list among job seekers. And **60%** of job seekers would be open to owning an autonomous or self-driving car someday.



# ATTITUDES ABOUT AUTOMATION:

“We will see a surge in white-collar automation, half a million new digital workers (bots) in the US, and a shift from manual to automated IT and data management. Companies that master automation will dominate their industries,” according to Forrester’s recent report on 2018 predictions around automation.

While most job seekers (**77%**) have heard of the term “job automation” - only slightly more than half (**56%**) are familiar with the term and even less (**30%**) are very familiar. Nearly 2 in 3 job seekers (**63%**) believe they are knowledgeable about the type of jobs or careers that are most likely to be automated in the near future, and 2 in 5 employed job seekers (**42%**) believe their current job will be automated within their lifetime.



**Millennials, men, white collar workers, and those in VP/senior management positions are more likely to know what jobs are most likely to be replaced by robots.**

**Our data found that job seekers don’t seem to be taking automation seriously. 60% of job seekers believe that fears and anxieties around robots taking away jobs are OVERHYPED.**

Yet a similar percentage of job seekers (**60%**) believe that the type of job automation today is more threatening today than it was in the past.

Paradoxically, and despite the sentiment about automation fears being believed to be overhyped by respondents, nearly 2 in 3 job seekers (**64%**) believe workers in most industries will be replaced by robots or computers in their lifetime. Employed job seekers are more likely than unemployed job seekers to agree with this statement, **67%** vs. **55%** respectively.

So what are job seekers worried about? When asked, **48%** of unemployed job seekers state they are more worried about losing their mind than their job to a robot, while **45%** of employed job seekers agree. **29%** of employed job seekers are more worried about losing their job to a robot versus **15%** of unemployed job seekers.



# ATTITUDES ABOUT AUTOMATION:

3 in 5 job seekers (**60%**) believe fast food cashiers are in danger of being automated within the next 10 years - followed by over half of job seekers (**51%**) who believe foreign language translators are in danger.



**66%** of job seekers believe that truck drivers will be safe from automation over the next 10 years - [Silicon Valley disagrees with this sentiment](#). While trucking - a **\$700 billion industry** - is thought to be an early target for broad-scale automation, “Goldman Sachs economists estimate that trucking will shed about **300,000 jobs** per year — starting in 25 years,” wrote Conor Dougherty in [The New York Times](#). “Clearly, that estimate is based on so many ifs that the precise number is not worth fretting over. The bigger point is that as technology gets better, it will start replacing jobs.”

The technology is certainly evolving. Tesla’s fully electric semi truck comes with automatic braking, lane keeping, departure warnings, has a [500 mile range](#) and can haul 80,000 pounds along the way.

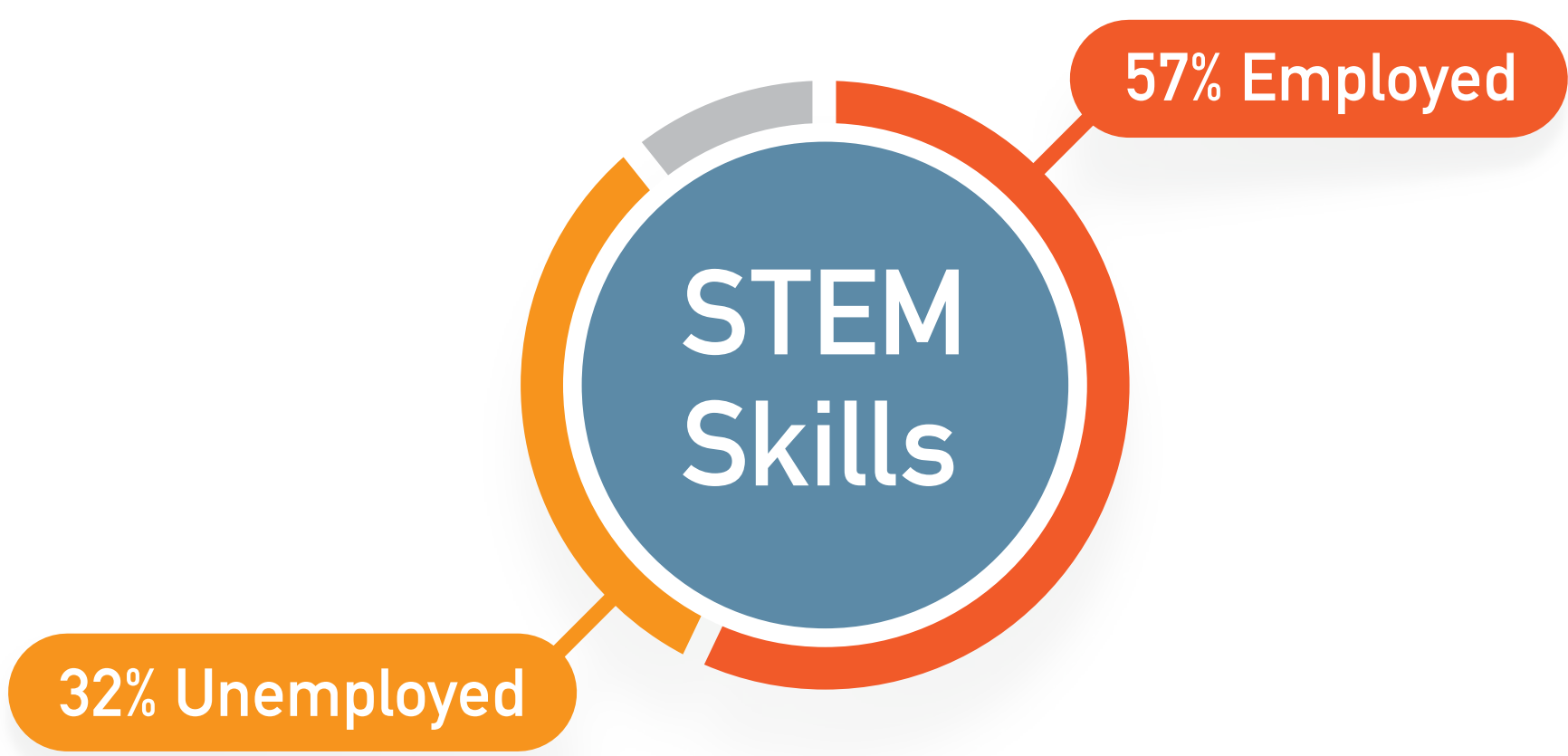




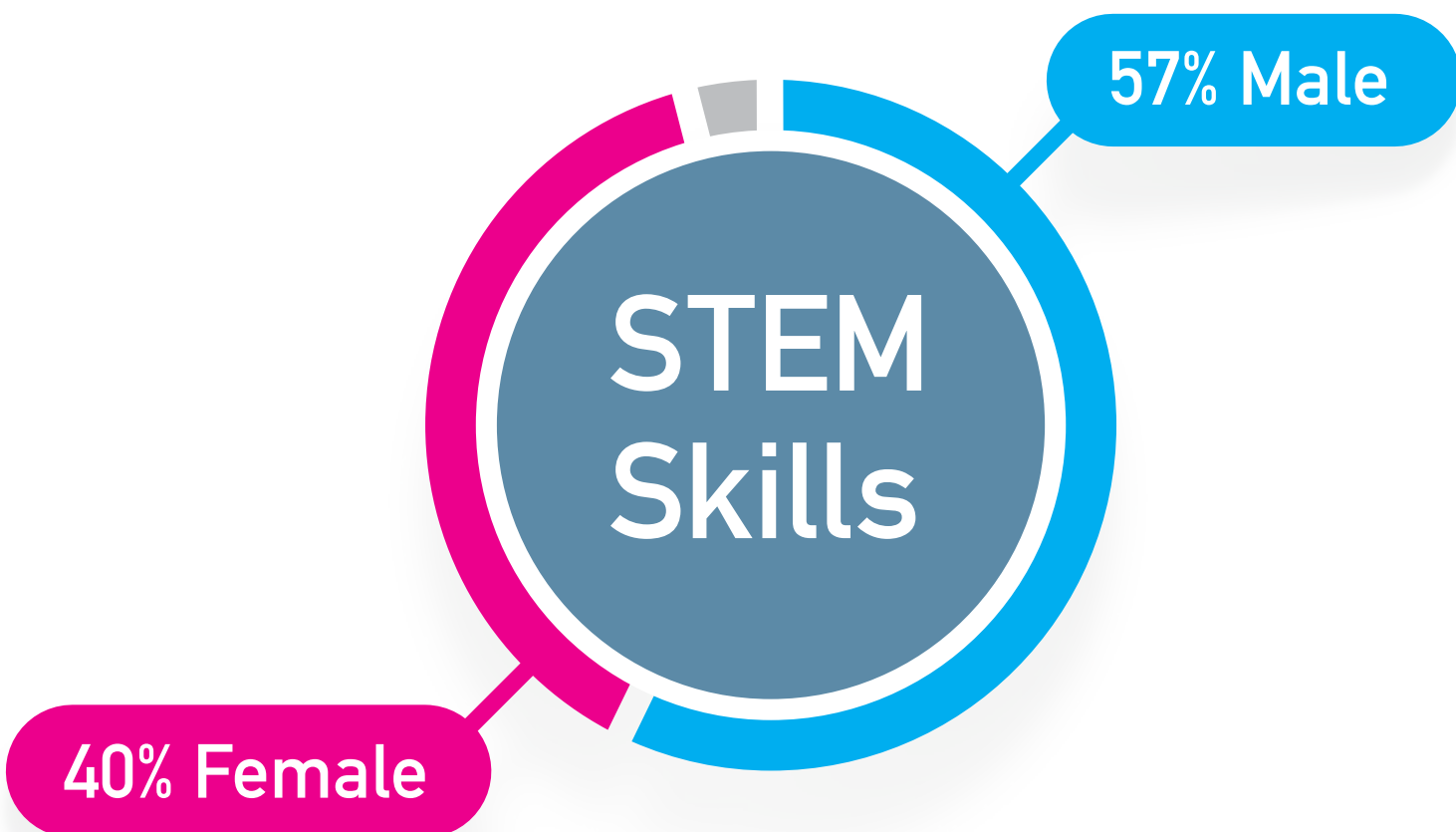
# ATTITUDES ABOUT AUTOMATION:

## PREPARING FOR THE WORKFORCE - STEM:

Current and future technological advancements demand a workforce with new skills. Whereas previous generations were able to succeed with the general professional competence they gained as young people all the way through retirement, the expectations and changing demands of today's labor market require that workers not only maintain but grow a strong set of both soft and technical skills.

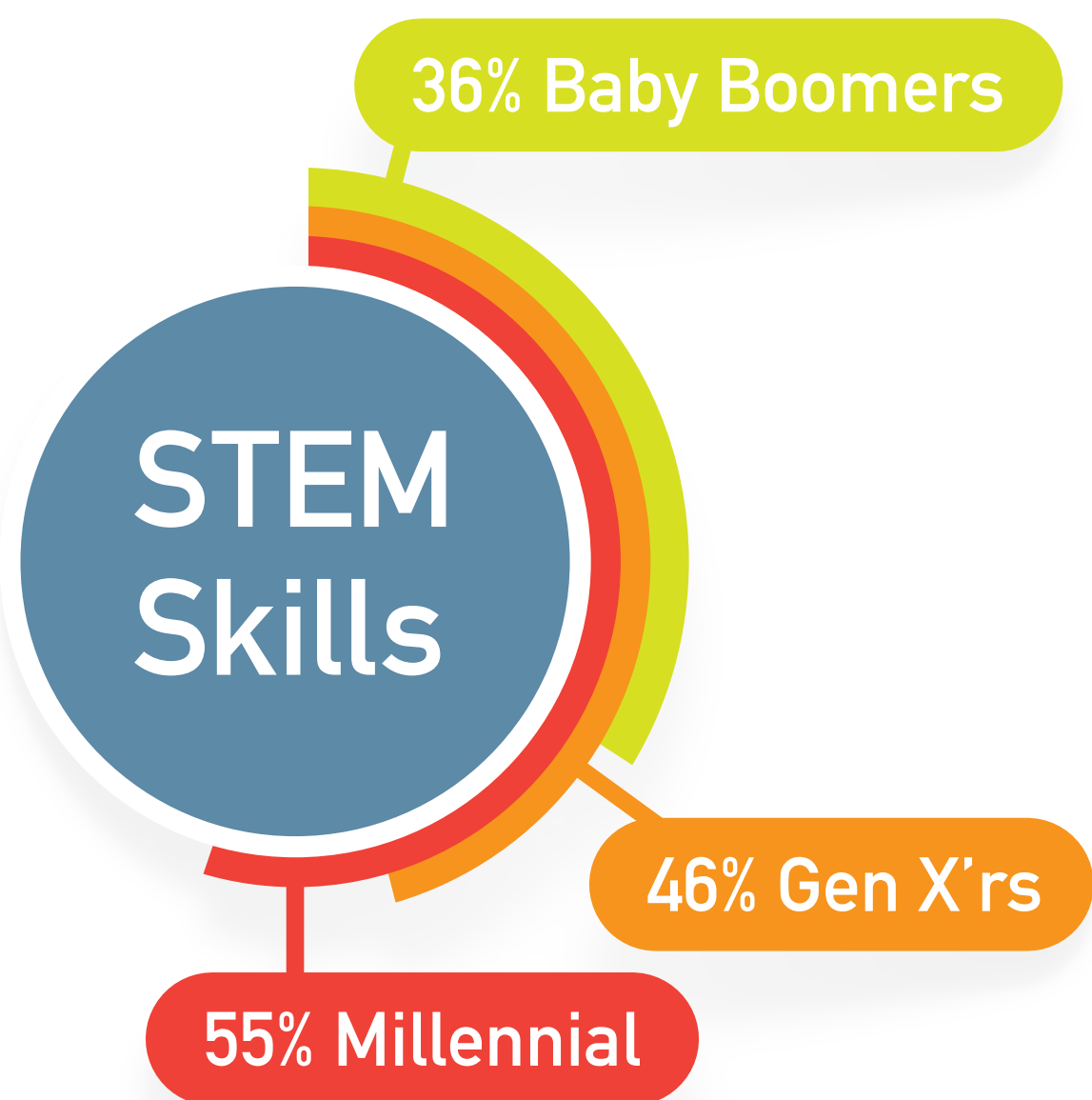


57% of employed job seekers report having STEM skills, compared with 32% of unemployed

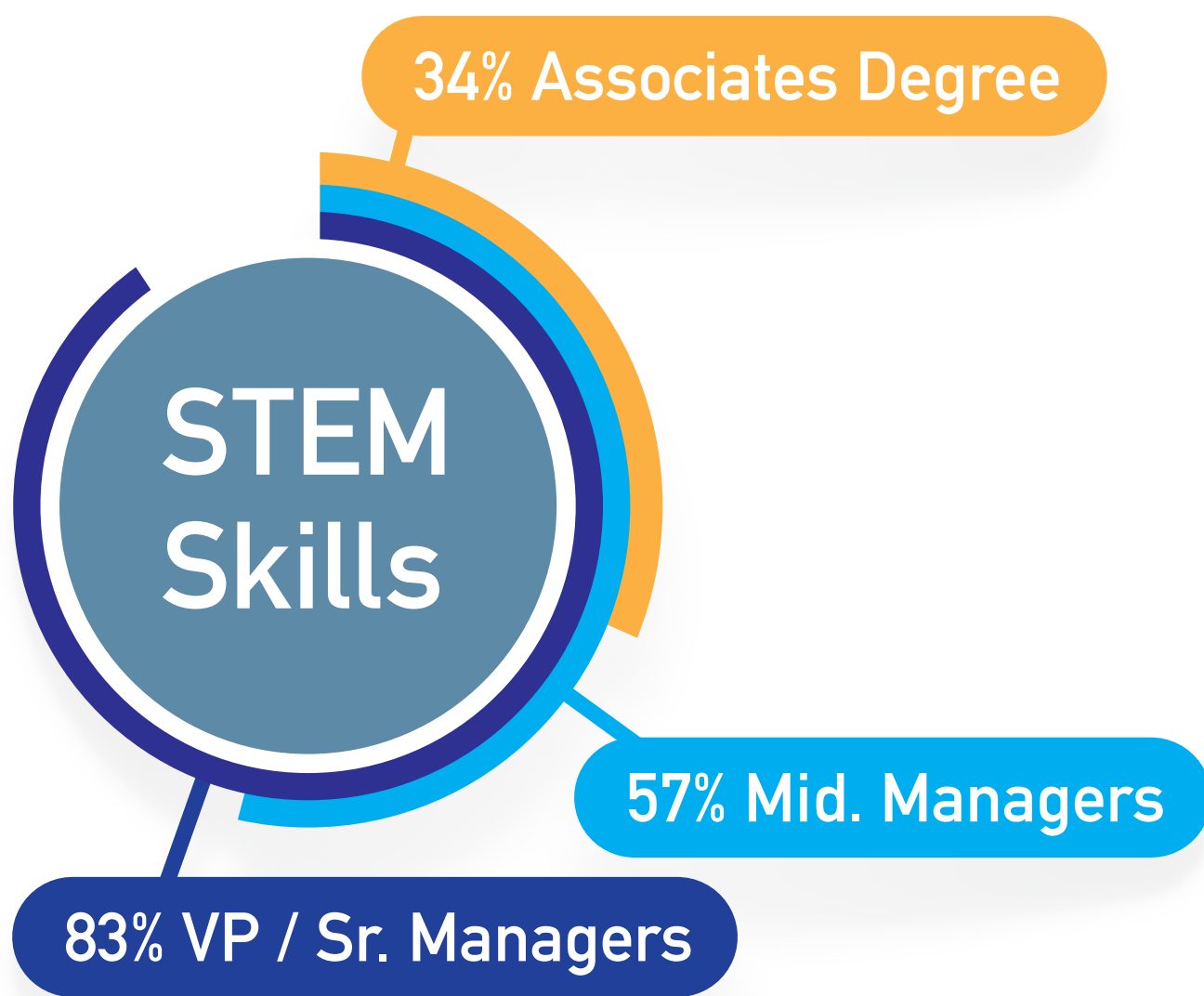


57% of male job seekers report having STEM skills, compared with 40% of females

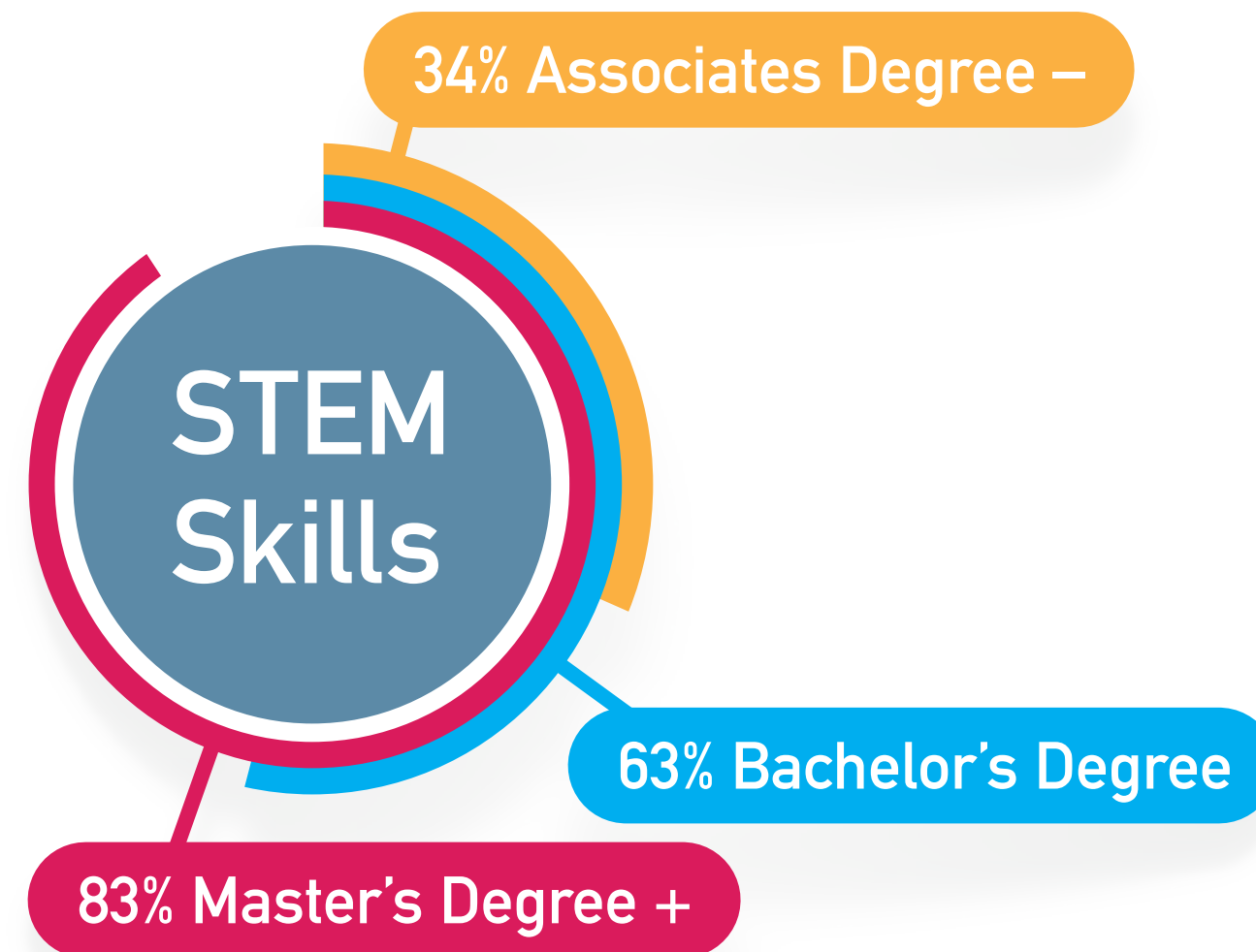
Reflecting on their own talent and abilities, half of job seekers (50%) say they currently have engineering, economics, science and/or technology skills, while even more job seekers -- nearly 4 in 5 (79%) -- reported having soft skills.



55% of millennial job seekers, compared with 46% of gen Xers and 36% of baby boomers



88% of VP/senior manager-level job seekers, compared with of 57% middle managers and 36% of professional/entry level



83% of job seekers with a master's degree or higher and 63% of those with a bachelor's degree, compared with 34% of those with an associate's or less



# ATTITUDES ABOUT AUTOMATION:

## PREPARING FOR THE WORKFORCE - SOFT SKILLS:

In general, different groups were very similar in terms of soft skills.

- One major exception was between those who said they have soft skills: employed (85%) vs. unemployed (65%) job seekers
- VPs/senior manager job seekers (94%) and middle managers (89%) were a bit more likely than professional/entry level (72%) to have soft skills
- Similarly, those job seekers with master's degrees or higher (94%) and those with bachelor's degrees (91%) were more likely than those with associates degrees or lower (71%) to have soft skills



**So why aren't job seekers getting STEM skills? According to our data, affordability is the main hurdle when it comes to workers making investments in new skills, 67% of job seekers are relying on self-training to acquire these skills.**

Job seekers survey reported that they are self-training to avoid the costs associated with traditional education. In fact, self-training was the most popular method for gaining either STEM skills or soft skills for both employed and unemployed job seekers, with 67% choosing this option to gain STEM skills and 60%\* choosing it for soft skills.

\*Caution: small base size (<less than 100), results should be interpreted as directional.

## CONCLUSION:

**Job seekers view technology as a mixed bag of benefits and risks, and they are only somewhat informed on the topic of automation.** Recent advancements have led us to some groundbreaking and life-improving developments - self-driving cars, gene therapy, virtual assistants - but while there are some generalized fears about how these changes will affect the future prospects for job seekers, the developments are far enough in the future that these fears are seen as “**OVERHYPED**.”

In the case of an industry like trucking that appears to actually be true -- for now. Technical education can be a powerfully positive force in the lives of American worker and the long-term benefits of both [STEM](#) and Career and Technical Education (CTE) are well documented, and it's never too early to start pursuing them. **ZipRecruiter** applauds companies like Google, which announced in 2017 [it will invest \\$1 billion](#) to train Americans for tech jobs over the next five years. It will

be exciting to observe how government, educational institutions, and tech companies themselves similarly help our society prepare for the coming wave of change.

The team at **ZipRecruiter** wakes up every day with the same mission: we think about how to help job seekers find meaningful work. And we do help, by the millions of people. Job seeking is a serious and, unfortunately, often very anxious process for those who bravely undertake it. Their needs are universal: more money, to improve life circumstances for themselves and their families; and meaningful work. As we enter a more automated age, **ZipRecruiter** wants to help anyone who's looking for a job, or a better job.

*And we encourage all involved to [#AutomateHumanely](#).*



# SURVEY METHODOLOGY:

The survey was conducted online within the United States by Harris Poll between August 31 and September 18, 2017 among 1,006 U.S. adults 18+ who are actively looking for a job, of which 599 are currently employed full-time or part-time and actively looking for a job, and 407 are not employed but looking for work.

Figures for age, gender, household income, education, region, race/ethnicity, household size, marital status, and employment status were weighted where necessary to bring them into line with their actual proportions in the population.



# DATA: STATE OF THE AMERICAN JOB SEEKER

**Despite actively looking for a new job, many Americans say they are happy at their current jobs. However, certain subgroups -- particularly, women, gen Xers and baby boomers -- are much more likely to report disliking and/or feel unfulfilled in their current job.**

- Nearly half (**49%**) of employed job seekers say they love or like their current job, despite actively looking for a new one.
- Employed job seekers have spent an average of 7 years with their company.
- More than half of employed job seekers (**54%**) attribute low pay for not liking or loving their current job.
- Women (**35%**) are twice as likely than men (**17%**) to “dislike” or “hate” their job -- with the majority of women (**63%**) also saying they feel unfulfilled in their current job, compared to **41%** of men.  
**58%** of millennials (ages 18-37) “like” or “love” their current job, and **62%** saying they feel “fulfilled.” In contrast, **37%** gen Xers (ages 38-52) “like” or “love” their current job, with **34%** saying they feel fulfilled -- and only **25%** of baby boomers (ages 53+, respectively) “like” or “love” their current job, with **25%** saying they feel fulfilled.
- Nearly 1 in 3 unemployed job seekers (**31%**) have been unemployed for less than 6 months, while more than 1 in 3 have been unemployed for more than 2 years (**37%**).
- Of those job seekers who are currently unemployed, 1 in 5 (**21%**) say it is because they voluntarily quit their last job to find a better one, while **16%** say they were laid-off.

## **Weighing the pros and cons: job seekers view tech advancements as a mixed bag.**

### ***The pros:***

- Nearly 2 in 3 job seekers believe that the quality (**65%**) and quantity (**64%**) of jobs today are better now than they were in the past.
- Half of job seekers (**50%**) say the introduction of the internet has generally done more harm than good.
- More than 2 in 5 job seekers (**44%**) believe there is no such thing as a “bad” technological advancement. Several subgroups are more likely to agree with this sentiment, including: employed job seekers (**49%**), men (**51%**), millennials (**52%**), white collar workers (**55%**) and those in VP/senior management positions (**79%**).
- The majority of job seekers say air conditioning (**66%**), the smallpox vaccine (**64%**), smartphones (**63%**), MRI scans (**63%**), wind energy (**63%**) and television (**55%**) have generally made the world a better place.
- 3 in 5 job seekers (**60%**) would be open to owning an autonomous or self-driving car someday.
- The vast majority of job seekers (**89%**) agree that “businesses have the right to use new technology available to them, even if doing so could mean automating certain jobs.”

### ***The cons:***

- 4 in 5 job seekers believe the current technology boom has left certain people (**84%**) and cities (**78%**) behind.
- Job seekers who are employed, male and/or millennial are more likely to say that tech advancements have negatively impacted their own town or career “a great deal.”
- When it came to impact on their own career, the following groups of job seekers were most likely to report negative impacts due to technological advancements:
  - ▶ VPs/senior managers: **77%** (vs. **57%** middle management and **38%** of entry-level workers)
  - ▶ Those living in the West: **62%** (vs. **47%** living in the East; **46%** living in the South, and **43%** in the Midwest)
  - ▶ Job seekers with a master’s degree or higher: **60%** (vs. **49%** with a bachelor’s degree and **46%** with an associate’s degree or lower)
  - ▶ Millennials: **56%** (vs. **41%** of gen Xers and **37%** of baby boomers)
  - ▶ Employed job seekers: **53%** (vs. **40%** of unemployed job seekers)
  - ▶ 3 in 4 job seekers (**74%**) say that they’ll always trust a “live” person over automated robots.



# DATA: STATE OF THE AMERICAN JOB SEEKER

## Job seekers are only somewhat informed on the topic of automation, and the risks associated with it.

- While most job seekers have heard of the term “job automation” (77%), less than 1 in 3 (30%) have an actual understanding of the term -- with more than 1 in 4 job seekers (27%) defining job automation as “robotic operation.”
- While nearly 2 in 3 job seekers (64%) believe workers in most industries will be replaced with computers or robots in their lifetimes, about the same amount (60%) believe that fears today about “robots taking away jobs” are overhyped.
- 60% of job seekers believe that job automation is more threatening today compared to automation that’s taken place in the past (i.e. steam-powered machines replacing agricultural jobs at the turn of the 18th century).
- 3 in 5 job seekers (60%) believe fast food cashiers are in danger of being automated within the next 10 years, and around half (51%) believe the same for foreign language translators. Conversely, the vast majority of job seekers believe lawyers (88%) and nurses (87%) are safe from automation in the next decade.
- 1 in 4 jobseekers are worried about losing their jobs to a robot. Millennials are more likely to echo this fear, with 1 in 3 saying they’re worried (32%).
- 2 in 5 employed job seekers (41%) believe their current job will be automated within their lifetime.
- 7 in 10 job seekers who have heard of automation (70%) are actively looking for jobs less likely to be automated.

## Those with jobs and skillsets less prone to automation understand it -- and fear it -- the most.

- Employed job seekers (29%), men (31%), millennials (31%), white collar workers (33%), and those in VP/senior management positions (66%) are more likely to say they are “very knowledgeable” about the type of jobs or careers that are most likely to be automated in the future.
- Job seekers in VP/senior management positions (79%) are also more likely to echo the belief that their job will be automated in their lifetime.

## Job seekers are trying to teach themselves new tricks to stay competitive in the labor market.

- 50% of job seekers feel they currently have STEM skills (i.e. science, technology or engineering skills), and 79% feel they currently have “soft skills” (i.e. interpersonal communication or service-oriented skills) -- with 47% feeling they have both skillsets.
- Those in VP/Senior management positions (88%) and white collar job seekers (68%) are more likely to say they have STEM skills than their counterparts.
- The top reason that job seekers cite for not trying to acquire either tech-related skills or soft skills is because they can’t afford classes or training courses (54%), followed by believing they don’t need them (31%).
- The majority of job seekers who don’t have these skills, but are trying to acquire them, say they rely on self-training (STEM skills, 67% and soft skills, 60%).
- 2 in 3 job seekers (67%) would advise high school seniors to get a university degree after graduation in order to prepare themselves for a career. Millennial job seekers are more likely than their older counterparts to say high school seniors should start a business instead of continuing school

## Unemployed and employed job seekers most notably differ in their political views, skillsets and attitudes towards technology and automation.

- Unemployed job seekers are more likely to say they didn’t vote in the 2016 presidential election (29%), compared to employed job seekers (12%).
- Unemployed job seekers are more likely to have voted for Clinton than for Trump in the 2016 election (37% vs. 22%) -- and conversely, employed job seekers were more likely to have voted for Trump than for Clinton (42% vs. 35%).
- Employed job seekers are more likely to support reducing regulations on businesses (61%) compared to unemployed job seekers (40%).
- Employed job seekers are more likely to say they have soft skills (85%), compared to unemployed job seekers (65%). Employed job seekers are also more likely to say they currently have STEM skills (57%) than unemployed job seekers (32%).
- Employed job seekers are more likely than unemployed job seekers to say technological advancements has caused their pay to be undercut by cheaper automated options (38% vs. 21%), to be laid off from a retail company (30% vs. 14%), and told they can keep their job but at a lower wage (30% vs. 13%).
- Employed job seekers are nearly twice as likely to say they are worried about losing their job to a robot (29%) than unemployed job seekers (15%).
- Employed job seekers are more likely to say the introduction of the internet has generally done more harm than good (53%) than unemployed job seekers (40%).