THE FUTURE OF WORK REPORT

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Introduction

It's not always easy to stay current with new tech trends and how they impact our lives. Artificial intelligence, the latest technology entering the workforce, is advanced and can be confusing. In fact, in a survey ZipRecruiter conducted in 2019, 21% of job seekers were concerned that they will lose their own job to AI and 48% were worried about AI eliminating jobs generally.[1]

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AI Promotes Industry Advancements

The world of talent acquisition is evolving faster than ever, and ZipRecruiter is here to help you stay in the loop on emerging trends. Our data scientists reviewed more than 50 million job postings, and surveyed hundreds of employers[2] and thousands of job seekers to get a snapshot of what's emerging.

While there is no question that AI will transform the job market, our research suggests an optimistic future of work. We found that while AI will reduce employment in some industries, it is also creating new products and services, giving rise to new markets, improving productivity, and making work better. In fact, AI created about three times as many jobs as it destroyed in 2018.[3]

To get a more detailed picture of the future of work, we examined specific use cases in six transitioning industries. Read on to learn more about how work is evolving in every aspect of your life.

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AI Increases
Domestic Manufacturing

Rather than replacing a majority of manufacturing jobs in the near future, AI is fostering the growth of small businesses in the U.S. by introducing new efficiencies which will create more jobs.

"Our instant quoting platform would not be possible without AI, and it's incredible to see how local machine shops and manufacturers have benefited from this technology."

—Bill Cronin, CRO of Xometry

- There was an 84% increase in manufacturing jobs posted to ZipRecruiter in 2018.

- The increase in jobs and diversity of roles reflect an industry that is creating quality jobs across the skills spectrum.

Manufacturing: Positive Impacts

Incorporating AI in manufacturing procedures is having a positive influence on the industry. The use of AI:

Enables Expansion

AI lowers cost for startups looking to design and produce goods, and helps existing companies expand production and diversify their products.

Improves Efficiency

Businesses can focus on their core strengths in order to grow, rather than spending time and money on the details of manufacturing.

Promotes Resilience

With help from AI, small manufacturers have more freedom to diversify their client bases, withstand market shocks, and stay in business.

AI Improves Healthcare Efficiency

The demand for healthcare services is on the rise and the current labor force is not prepared. However, AI technology may be on the verge of changing our approach to healthcare to be more effective in the areas of improved patient care, early-stage diagnostics, and more.

"Efficiencies in healthcare technologies will thus become necessary innovations to meet the demographic changes afoot, freeing time spent in administration and record keeping for caregiving activities."
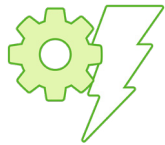
—World Economic Forum[4]

- Biotech company Freenome is testing AI to try and detect early-stage cancer from a blood test.

- AI-driven technology is outperforming doctors and improving accuracy in diagnosing cancer.[5]

Healthcare: Positive Impacts

New AI technologies are changing the way we approach healthcare.
The use of AI:

Improves Efficiency

Early-stage diagnostics could increase productivity and help doctors manage growing patient volumes.

Creates More Jobs

With AI, there will be an increased need for medical specialist jobs that require training in a single software, device, or technique.

Promotes Better Outcomes

Earlier detection and better outcomes will positively impact patients as well as doctors who often suffer from depression, stress, and burnout.

AI Stimulates Classroom Productivity

Education is the slowest industry to adopt new technologies, but has much room to advance. As the demand for educators increases and the supply remains steady, AI can offer tools to help improve classroom efficiency.

"Gradescope gives instructors superhero powers."

—Arjun Singh, Co-Founder of Gradescope

- Gradescope, an AI-assisted tool, helps grade handwritten papers and exams, saving teachers hours each week and optimizing how they deliver feedback.

- School teachers were among the top 20 fastest-growing job categories on ZipRecruiter in 2018.

Education: Positive Impacts

Introducing AI into the classroom helps teachers spend less time grading and more time helping students. The use of AI:

Increases Productivity

AI-powered tools can save teachers time, allowing them to focus more on developing lesson plans and assisting students.

Facilitates Better Work Environments

By making time-consuming tasks more efficient, Gradescope improves working conditions, career satisfaction, and in turn, retention.

Improves Outcomes

AI can improve student learning by helping deliver more targeted and timely feedback.

AI Optimizes Crop Yield

In the last ten years, the agriculture industry has experienced greater business consolidation than any other sector.[6] AI is positioned to reverse this trend and radically change the face of agriculture.

Bowery Farming's AI software adjusts water, light, and nutrients to keep farms producing at optimal levels. These systems monitor crops at a level of precision that is impossible for the human eye to replicate.

- Use of AI-powered precision farming may result in a 70% yield increase worldwide by 2050.[7]

- Indoor farms can be 100x more productive per square foot and deliver local, organic produce at a lower price.[8]

Agriculture: Positive Impacts

Utilizing AI in agriculture is positively impacting both workers and consumers. The use of AI:

Improves Worker Safety

Indoor farms do not expose workers to harmful herbicides, pesticides, or UV rays which will benefit long-term health.

Creates More Job Stability

Seasonal and weather variability are eliminated in indoor farms, creating year-round employment.

Increases Job Satisfaction

Urban farms would involve a number of smaller teams performing more varied tasks in a dynamic environment, eliminating monotonous tasks.

Drones Assure
Safer Job Sites

Rather than eliminating jobs, drones are creating new, well-paying opportunities. While most drone-related work is currently in engineering, drone technology is leading to job growth in finance, sports and recreation, and education.

DroneDeploy, a flight automation and data capture software company, automated over 1M drone flights in 2018, mapping more than 50M acres worldwide.

- Drone pilots may outnumber commercial airline pilots in the U.S. by 2023.[9]

- There has been a 51% increase in drone jobs posted to ZipRecruiter year over year.

Drones: Positive Impacts

Advances in AI and drone technology are positively influencing the future of work. The use of AI:

Creates Diverse Opportunities

Drone-related job opportunities are growing, such as Customer Service Team Member, Drone Camp Instructor, and Robotics and Automation Research Analyst.
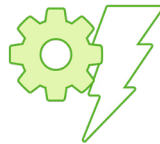
Increases Efficiency

DroneDeploy, for example, uses drone-captured imagery to map out projects in construction, agriculture, and more. It also provides progress updates and risk assessments in real time to increase project success.

Improves Worker Safety

Instead of replacing workers, drones can accomplish tasks that are challenging or dangerous for humans, leading to safer, more productive job sites.

Self-Driving Cars
Create Safer Roads

As legacy automakers begin to respond to the growing demand for autonomous vehicles (AVs), there is an opportunity for the drivers of today to prepare for a career in the automotive industry of tomorrow.

While AVs may replace driving jobs in the future, for now, AV technology brings new job opportunities and safer driving conditions.

- 4M drivers[10] and 1M warehousing and storage workers[11] in the U.S. face the highest likelihood of being replaced by technology.

- However, with the increase in e-commerce, demand for drivers is still on the rise.

Autonomous Vehicles: Positive Impacts

Incorporating AI into auto manufacturing will positively impact our community as a whole. The use of AI:

Increases Cost Savings

Implementing AI in the auto manufacturing industry could result in $173 billion in savings by 2025.[12]

Creates More Jobs

Cost savings will allow automakers to ramp up hiring efforts in manufacturing and maintenance, and increase wages.

Leads To Safer Roads

AVs may bring an estimated $800 billion in benefits by 2050, including fewer car accidents and less oil consumption.[13]

Conclusion

Building A Better Future

One of the first steps toward a better future of work is to understand the unique challenges and opportunities that lie ahead. Private enterprises with access to big data can make a considerable contribution to this effort. Another step is for policymakers to play their part as the adoption of AI quickly advances.

ZipRecruiter Utilizes AI to Improve Recruiting

ZipRecruiter is a leading online employment marketplace. Powered by AI-driven smart matching technology, ZipRecruiter actively connects millions of all-sized businesses and job seekers through innovative mobile, web, and email services, as well as partnerships with the best job boards on the web. Our AI helps find quality candidates and improve recruitment ROI for employers across the most competitive industries. It's no wonder that ZipRecruiter is rated #1 by employers in the U.S.[14]

There is no question that AI will transform the job market. Our research shows that while some industries will lose jobs to AI, this new technology will make a positive impact overall. AI opens up opportunity for new advances in medicine, new programs for students, and safer working conditions across multiple industries.

Endnotes

1. Survey conducted 3/13/19–3/19/19, and included responses from 11,478 active job seekers, 8,847 of whom completed the survey. "Active job seekers" are defined as logged-in, registered users who visited ZipRecruiter's site or actively used the ZipRecruiter job search app during the time the survey was conducted.

2. Survey conducted 3/6/19–3/25/19, and included responses from 520 employers logged into the ZipRecruiter employer portal during the period the survey was conducted, all of whom completed the survey. The survey spanned 17 different industries, with companies ranging in size from those having fewer than 20 employees to those having 100 or more employees.

3. We tallied up declines in the number of job postings across all declining occupations between 2017 and 2018, and compared them to job posting gains across all growing occupations. Adjusting for company growth, there were approximately five times as many new job postings in growing occupations as there were lost job postings in declining occupations in 2018 compared to 2017. Among just those changes directly attributable to the internet and AI, there were approximately three times as many gains as losses overall.

4. World Economic Forum, "The Future of Jobs Report," 2018, p.15, http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

5. Diego Ardila, Atilla P. Kiraly, Sujeeth Bharadwaj, Bokyung Choi, "End-to-end lung cancer screening with three-dimensional deep learning on low-dose chest computed tomography," Nature Medicine, p.25, pp.954–961, 2019, https://www.nature.com/ articles/s41591-019-0447-x.

6. James M. MacDonald, Robert A. Hoppe, and Doris Newton, "Three Decades of Consolidation in U.S. Agriculture," EIB-189, U.S. Department of Agriculture, Economic Research Service, March 2018, p.5, https://www.ers.usda.gov/webdocs/publications/88057/eib-189.pdf?v=0.

7. Goldman Sachs Global Investment Research, "Precision Farming: Cheating Malthus with Digital Agriculture," July 13, 2016, p.7, https://docdrop.org/static/drop-pdf/GSR_agriculture-N1sH6.pdf.

8. https://boweryfarming.com/

9. Jim Moore, "FAA Underestimated Drone Growth," Aircraft Owners and Pilots Association, May 7, 2019, https://www.aopa.org/news-and-media/all-news/2019/may/07/ faa-forecast.

10. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook at https://www.bls.gov/ooh/. The figure combines the numbers of heavy and tractor-trailer truck drivers (1.872 million); delivery truck drivers and drivers/sales workers (1.421 million); taxi drivers, ride-hailing drivers, and chauffeurs (305,100); and bus drivers for schools or special clients (504,150) as of May 2018.

11. Bureau of Labor Statistics, U.S. Department of Labor, Current Employment Statistics survey at https://www.bls.gov/ces/. The figure is the number of total employees in warehousing and storage (1.170 million) as of December 2018.

12. McKinsey Global Institute, "Artificial intelligence: automotive's new value-creating engine," January 2018, p.11, https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/artificial-intelligence-as-auto-companies-new-engine-of-value.

13. Securing America's Future Energy (SAFE), "America's Workforce and the Self-Driving Future," 2018, p.8, https://avworkforce.secureenergy.org/.

14. Based on TrustPilot ratings of hiring sites with over 2,000 reviews.