



FUTURE FORWARD ACADEMY CAREER CAPSULE VOL. 2

Written by Dr. Scott Dell

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AI (Artificial Intelligence) Anticipated to Eliminate 85M Jobs ...and To Create 97M

Welcome to YOUR latest **Career Capsule newsletter** installment, your source for

tools  and resources to help you serve those wanting to **learn, share, and grow**  ! Check out our ChatGPT “Conversation” at the bottom of this Newsletter!

SPECIAL ANNOUNCEMENT! We are now publishing our newsletter on LinkedIn, **PLEASE JOIN US THERE** via <https://tinyurl.com/CareerCapsuleNewsletter>.

We anticipate phasing out this email, unless I receive responses that you would prefer to continue to receive this emailed to you, and I will both publish and email it. **PLEASE LET ME KNOW.**

So, here’s your latest edition. If you would like to be removed from the mailing list, please respond to this email with the word REMOVE in the subject line.



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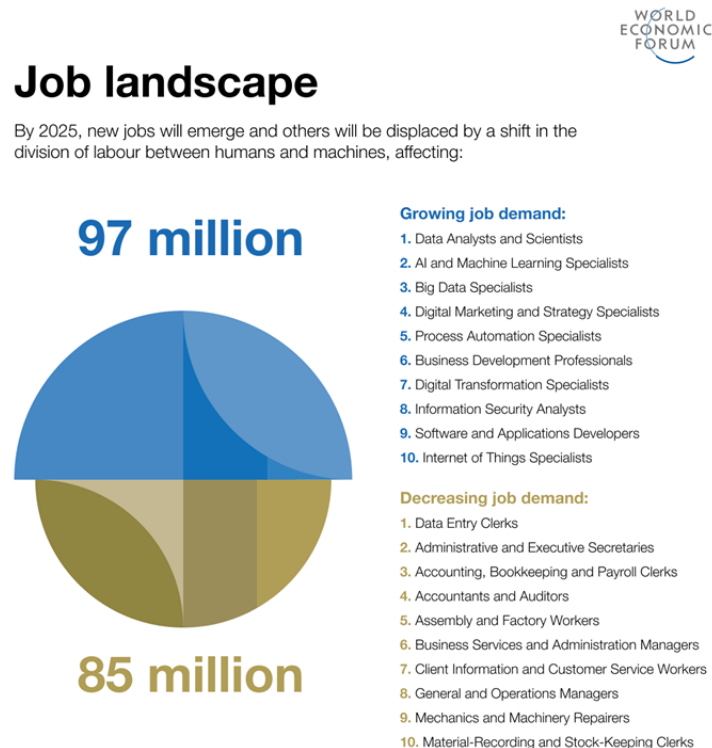
AI (Artificial Intelligence) Anticipated to Eliminate 85,000,000 Jobs...and To Create 97,000,000

After appearing recently on a LinkedIn Live hosted by @Loren Grieff (<https://www.linkedin.com/feed/update/urn:li:activity:7018603579661848576/>), the **Careers and ChatGPT conversation** turned to employment impact. Do we lose jobs or gain opportunities? Let's take a deeper dive.

Also, join us on Tuesday, January 31, 2023, for a **30-minute free virtual lunch and learn at 12:00 EST** when Dr. Janet Wall of The Career Planning Academy interviews Dr. Scott Dell for a webinar titled "**What the Heck is ChatGPT and How Can I Use it In My Career Development Practice**". Register for free at <https://careerplanningacademy.com/courses/what-the-heck-is-chatgpt/>.

We keep hearing about how AI, Robotics, and RPA (Robotic Process Automation) will be **replacing jobs**...and they will. We don't hear much about the **jobs that will be created**. In their 163 pp. **Future of Jobs Report**, the World Economic Forum, yes the same folks that just held their annual meeting in Davos, projected that by 2025, 85M jobs will be replaced **while over 95M will be created**. <https://www.weforum.org/reports/the-future-of-jobs-report-2020>. This same organization states that by 2025, 50% of employees will need reskilling.

Let's take a look at the landscape as presented in that report below:



Source: Future of Jobs Report 2020, World Economic Forum.

Be careful before you jump in and say that you're all in on the "Growing" and done with the "Decreasing". The above data is definitely of interest, but I can speak from firsthand experience, accounting opportunities, especially CPA track folks, are in short supply with a decreasing pipeline. The Big 4 (the four largest CPA firms in the world) cannot get enough entry-level or experienced staff and the pay scales have been growing significantly. Management-level employees are not going away so fast either. Many of the jobs in the decreasing category have more openings and just more total jobs overall than in the growing category...presently. But trends are worth considering in adapting to future opportunities.

A favorite quote from **Future Shock** by Alvin Toffler in 1970, yes 1970, is *"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."*

Higher education has been getting a bum rap of late. Many jobs are being reevaluated as to whether a college education is truly necessary. And for many jobs, it is not. But does having additional maturity, people skills, and additional technical and broad-based liberal arts knowledge make a difference in the lifetime opportunities and potential earnings available, especially in the age of quickening pace of change and a wider range of skills needed that can be gained through higher education? We'll leave that



question for another newsletter . Let's examine here what the future might hold in store.

BTW, if you have a spare 15 minutes, there is an eye-opening video titled "Humans Need Not Apply" at <https://www.youtube.com/watch?v=7Pq-S557XQU> which projects a potential 25+% unemployment rate. Before getting alarmed, although anything is possible, emphasized are the jobs that can and will disappear. Missing from the video for the most part are the new jobs that are being and will be created. The bottom line, change is in the air and it is approaching rapidly. Jerry Kaplan a computer scientist and visionary author wrote a book with the same name "Humans Need Not Apply: A Guide to Wealth and Work in the Age of AI" (2016) is definitely worth a read if you want to further explore AI and its implications. I enjoyed his insights.

The pace of change has accelerated and will continue to do so. One of the key skills we need to survive is adaptability. The only CONSTANT is CHANGE! For millennia, changes have forced us to adapt. You hear about the Industrial Revolutions. As we evolved from an agrarian society to an industrial one, there are four industrial revolutions. The 1st began with the steam engine. The 2nd included science and mass productions. The 3rd is considered by some the digital revolution. The 4th industrial revolution is thought to be one of technological expansion and social change. Some are projecting the 5th industrial revolution (search 5IR) to be a time of seeking human-machine collaboration (<https://www.sciencedirect.com/science/article/pii/S0022435922000288>).

Let's take a step back before we move forward. When farming-related employment decreased from over 70% of the world's labor force in 1900, down to just over 50% of the world's labor force in 1970 (D.B. Grigg Study) to now with less than 28%...with the U.S. officially at about 1.3% (83% in 1800, 53% in 1860). Officially, we're talking about billions of jobs displaced. Major demographic shifts were experienced but workers were able to find gainful employment. Automation has helped transition lots of folks out of agriculture and into other types of work. Although even as recently as the '60's, when my dad had a factory in Georgia, when it came harvest time, his factory workers would empty out to work the fields. The same thing appears to happen during hunting season in Wisconsin and elsewhere.

Is a job really lost to AI and automation when there is a shortage of workers? Though the real challenge is adapting to the pace of change, let's take a closer look at a specific industry.

Up to 82% of restaurant positions could, to some extent, be replaced by [robots](#), according to a forecast by restaurant consultancy Aaron Allen & Associates. Automation could save U.S. fast-food restaurants more than \$12 billion in annual wages, the group said. 1/20 article from <https://www.cnbc.com/2023/01/20/how-fast-food-robots-are-helping-address-the-labor-shortage.html>. But that is only part of the story. Are we replacing workers or covering jobs for nonexistent workers?

Is a job "lost" when there is a shortage of workers? McDonald's opened their first mostly non-human restaurant outside of Fort Worth, TX. Customers do not interact with humans at all, though there are human workers behind the scenes. The stated goal is to "increase speed and accuracy". BTW if you think is really the only reason, I have a bridge for sale in Brooklyn you might want to buy. At present, there is a shortage of fast-food workers.

I won't dive into the politics as protesters are active with outrage at such automation while simultaneously calling for increased minimum/living wage. This appears to me to further motivate McDonald's and accelerate the robotic trend rather than to eliminate it. Does it remind anybody of the time the Luddites (Note, I was not around myself in March of 1811) protested with violence, smashing "automated looms" that were replacing humans in the factory? Even Eli Whitney's cotton gin, more efficient than manual labor replaced many jobs started in 1793 while creating an increased demand for green-seed cotton (and perpetuated the crime of slavery in doing so). So evolving technology replacing and creating jobs is nothing new. The pace of change appears to be the biggest difference. AI and related technologies are here and accelerating in their use and growth. How we adapt will be the real question. <https://www.cbsnews.com/news/mcdonalds-automated-restaurant-robots-drive-thru-conveyor-belt/>

Fast Company, in their AI article on 1/20/23, discussed the impact of not a 20% productivity improvement, but a 1,000% one at <https://www.fastcompany.com/90836481/how-generative-ai-will-supercharge-productivity>. A quote from the article “Generative tech...going to change the nature of work and creation...won’t eliminate many jobs; it will simply evolve them”. So it appears we need to be adaptable. But can we adapt at the accelerated pace that is coming?

So, what jobs are on the fast track for future growth?

Let’s start with the skills needed today and in the future. In The Skills Imperative 2035 report at <https://files.eric.ed.gov/fulltext/ED619280.pdf>, growth and decline will be found in the following areas:

•Growing sectors: Health, social and personal care roles are the most frequently mentioned in the literature as areas of future employment growth. Education; professional services; sales/business development; creative, digital and design; green economy; information and communication; and natural and applied sciences are also widely predicted to grow.

•Declining sectors: Administrative/secretarial; manufacturing/production; and retail/cashier work are the most frequently mentioned sectors in the literature for declining employment opportunities. Agricultural and business administration/finance sectors are also widely predicted to decline.

The analysis in the same report looks at 4 categories of skills: analytical/creative, interpersonal, self-management, and emotional intelligence, further elaborated on in the following table.

The same World Economic Forum Report quoted previously also included a listing of the 10 top skills and can be seen in the following table:

Worthy of note, punctuality and resilience seem to also be floating to the top as what employers are wanting and needing in some recent articles that I have been seeing. I will leave a discussion of the 5 “Q’s”, IQ, EQ, AQ, CQ, and PQ (Intelligence, Emotional, Adversity/Resilience, Cultural, and Positivity Quotients) for a later newsletter.

What might future jobs look like? At the time of the horseless carriage (what a name, though it reflected the thinking of the time), who would have predicted superhighways or air travel? So many of the opportunities that will evolve have yet to be imagined. Science fiction, of which I am a big Asimov fan (and Star Trek over Star Wars for me), can help us reimagine the future, but not necessarily prepare for its full impact.

Hang on for the ride!

What jobs do YOU see growing in the future? What do YOU think is the best way to prepare for them?

TL;DR

Let's do a ChatGPT "Conversation" about AI and future jobs. I have posed questions and received the following answers:

Q1: So, what jobs can AI best replace?

A1: AI can best replace jobs that involve performing a large number of repetitive tasks, such as data entry, customer service, and administrative tasks. AI can also be used to automate many processes in industries such as healthcare, agriculture, transportation, and finance. AI can be used to assist with tasks such as medical diagnosis, crop optimization, logistics optimization, and financial forecasting.

Q2: What are jobs that AI cannot replace well?

A2: AI cannot replace jobs that require creative problem solving, such as design, engineering, or research. AI also cannot replace jobs that require complex social interactions, such as teaching, counseling, or social work. Additionally, AI cannot yet replace jobs that require a high level of emotional intelligence, such as nursing or customer service.

Q3: In the next twenty years, what are some of the fastest-growing areas of job growth that AI will take over?

A3: In the next twenty years, some of the fastest growing areas of job growth that AI will take over include: healthcare (AI assistants, medical diagnosis, and drug development), finance (automated investment advisors, risk assessment, and fraud detection), agriculture (precision farming, crop optimization, and logistics optimization), transportation (autonomous vehicles and route optimization), and retail (AI-driven customer service, product recommendations, and inventory management).

Q4: In the next twenty years, what are some of the fastest-growing areas of job growth that AI will not be able to take over?

A4: In the next twenty years, some of the fastest growing areas of job growth that AI will not be able to take over include: education (teaching, learning, and curriculum development), social work (counseling, therapy, and advocacy), healthcare (nursing and patient care), the arts (music, painting, and sculpture), and entertainment (film production and video game development).

Q5: What are some specific job titles for the previous query that AI will not be able to take over?

A5: Specific job titles for the previous query that AI will not be able to take over include: teacher, counselor, nurse, musician, painter, sculptor, film producer, and video game developer.

Q6: What skills will be most valuable for future job seekers?

A6: For future job seekers, the most valuable skills will be those that involve creative problem solving, emotional intelligence, and social interaction. Additionally, job seekers should focus on developing skills that involve technology, such as coding and data analysis, as AI and robotics are becoming increasingly integrated into many industries. Further, job seekers should focus on developing skills that will allow them to collaborate with AI and robotic systems, such as machine learning and artificial intelligence.

Q7: Will the impact of AI to increase the number of jobs for people or take away jobs from people?

A7: The impact of AI on jobs is complicated, as it is likely to both create and take away jobs. AI can automate certain tasks, allowing people to focus on more complex tasks, and creating new opportunities for employment. However, AI can also replace certain jobs that require less complex skills, and decrease the number of jobs available. Ultimately, the impact of AI on jobs will depend on how it is used and integrated into different industries.

Q8: What are 20 of the top books to read about the future of work?

- A8:
1. The Future of Work: Attract New Talent, Build Better Leaders, and Create a Competitive Organization by Jacob Morgan
 2. The Fourth Industrial Revolution by Klaus Schwab
 3. The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution by Darrell M. West
 4. The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life by Thomas W. Malone
 5. The End of Jobs: Money, Meaning and Freedom Without the 9-to-5 by Taylor Pearson
 6. The Jobs Revolution: A Guide to the New World of Work by Daniel Thomas Hind
 7. The New Work Revolution: Building the Future of Business Through Human-Centered Teams by Amy Edmondson
 8. The Skills Revolution: Learning to Succeed in the Automated Economy by David Deming
 9. The Rise of the Robots: Technology and the Threat of a Jobless Future by Martin Ford
 10. No More Jobs: The Rise of On-Demand Work, Crowdsourcing, and Freelancing by Steve King
 11. How We Work: Live Your Purpose, Reclaim Your Sanity, and Embrace the Daily Grind by Leah Weiss

12. The New Division of Labor: How Computers Are Creating the Next Job Market by Frank Levy and Richard J. Murnane
13. Work in the Age of Robots: How Automation Is Transforming Our Jobs, Our Lives, and What We Do Next by Daniel Suskind
14. Automation and Utopia: Human Flourishing in a World Without Work by Calum Chace
15. The Future of Work: Robots, AI, and Automation by Darrell M. West
16. The End of Jobs: Money, Meaning and Freedom Without the 9-to-5 by Taylor Pearson
17. The Upstarts: How Uber, Airbnb, and the Killer Companies of the New Silicon Valley Are Changing the World by Brad Stone
18. The Future of Work: Robots, AI, and Automation by Darrell M. West
19. The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life by Thomas W. Malone
20. The Rise of the Robots: Technology and the Threat of a Jobless Future by Martin Ford

Q9: What are the publication dates of the above books?

- A9: 1. The Future of Work: Attract New Talent, Build Better Leaders, and Create a Competitive Organization (2014)
2. The Fourth Industrial Revolution (2016)
 3. The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution (2016)
 4. The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life (2005)
 5. The End of Jobs: Money, Meaning and Freedom Without the 9-to-5 (2016)
 6. The Jobs Revolution: A Guide to the New World of Work (2014)
 7. The New Work Revolution: Building the Future of Business Through Human-Centered Teams (2015)
 8. The Skills Revolution: Learning to Succeed in the Automated Economy (2018)
 9. The Rise of the Robots: Technology and the Threat of a Jobless Future (2015)
 10. No More Jobs: The Rise of On-Demand Work, Crowdsourcing, and Freelancing (2016)
 11. How We Work: Live Your Purpose, Reclaim Your Sanity, and Embrace the Daily Grind (2018)
 12. The New Division of Labor: How Computers Are Creating the Next Job Market (2004)
 13. Work in the Age of Robots: How Automation Is Transforming Our Jobs, Our Lives, and What We Do Next (2020)
 14. Automation and Utopia: Human Flourishing in a World Without Work (2019)
 15. The Future of Work: Robots, AI, and Automation (2018)
 16. The End of Jobs: Money, Meaning and Freedom Without the 9-to-5 (2016)
 17. The Upstarts: How Uber, Airbnb, and the Killer Companies of the New Silicon Valley Are Changing the World (2017)
 18. The Future of Work: Robots, AI, and Automation (2018)

19. The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life (2005)
20. The Rise of the Robots: Technology and the Threat of a Jobless Future (2015)

Authors Note: ChatGPT HAS A FIXED DATA SET AND ONLY INCLUDES DATA UP TO 2021.

Q10: What are 20 of the top podcasts relating to the future of work and AI?

- A10: 1. AI Podcast: Conversations on the Future of AI with Host Lex Fridman
2. Exponential View: A podcast on the future of technology, society, and business
3. Work in Progress: A podcast on the future of work
4. The Future of Work: Exploring the impact of AI and automation on the future of work
5. The AI Show: Podcasts on the impact of AI on the future of work
6. The AI Effect: Exploring the effects of artificial intelligence and automation
7. The Future of Everything: Exploring the implications of emerging technologies
8. The AI Podcast: A podcast about the impact of AI on the world of work
9. The Future of Business: Exploring the impact of AI and automation on businesses
10. Automation Unplugged: A podcast exploring the future of automation
11. Technically Speaking: Exploring the impact of AI and automation on the tech industry
12. AI in Business: Exploring the impact of AI on business decisions
13. Future of Work Unleashed: Exploring the implications of AI and automation on the future of work
14. The Digital Revolution: Exploring the impact of technology and AI on the future
15. Future of Work Podcast: Exploring the impact of emerging technologies on the workplace
16. Inside AI: Exploring the implications of AI on the world
17. The Human Element: Exploring the impact of AI on people and jobs
18. AI in Practice: Exploring the practical implications of AI and automation
19. Jobs of the Future: Exploring the impact of AI and automation on the future of jobs
20. Automation Nation: Exploring the implications of automation on the future of work

Q11: What are the URLs for the above podcasts?

- A11: 1. AI Podcast: Conversations on the Future of AI with Host Lex Fridman
- <https://lexfridman.com/ai-podcast/>
2. Exponential View: A podcast on the future of technology, society, and business
- <https://www.exponentialview.co/>
3. Work in Progress: A podcast on the future of work
- <https://podcasts.apple.com/us/podcast/work-in-progress-a-podcast-on-the-future-of-work/id1477351253>
4. The Future of Work: Exploring the impact of AI and automation on the future of work
- <https://www.futurumresearch.com/podcast/>
5. The AI Show: Podcasts on the impact of AI on the future of work
- <https://www.microsoft.com/en-us/ai/the-ai-show-podcast>

6. The AI Effect: Exploring the effects of artificial intelligence and automation
- <https://www.theaieffect.com/>
7. The Future of Everything: Exploring the implications of emerging technologies
- <https://www.thefutureofeverything.io/>
8. The AI Podcast: A podcast about the impact of AI on the world of work
- <https://www.theaipodcast.com/>
9. The Future of Business: Exploring the impact of AI and automation on businesses
- <https://www.thefutureofbusinesspodcast.com/>
10. Automation Unplugged: A podcast exploring the future of automation
- <https://www.automationunplugged.com/>
11. Technically Speaking: Exploring the impact of AI and automation on the tech industry - <https://techspeak.audio/>
12. AI in Business: Exploring the impact of AI on business decisions
- <https://www.businessinsider.com/ai-in-business-podcast>
13. Future of Work Unleashed: Exploring the implications of AI and automation on the future of work - <https://www.futureofworkunleashed.com/>
14. The Digital Revolution: Exploring the impact of technology and AI on the future
- <https://thedigitalrevolutionpodcast.com/>
15. Future of Work Podcast: Exploring the impact of emerging technologies on the workplace - <https://www.futureofworkpodcast.com/>
16. Inside AI: Exploring the implications of AI on the world - <https://www.inside.com/ai>
17. The Human Element: Exploring the impact of AI on people and jobs
- <https://www.thehumanelement.io/>
18. AI in Practice: Exploring the practical implications of AI and automation
- <https://www.aiinpractice.com/>
19. Jobs of the Future: Exploring the impact of AI and automation on the future of jobs
- <https://www.jobsofthefuturepodcast.com/>
20. Automation Nation: Exploring the implications of automation on the future of work
- <https://www.automationnationpodcast.com/>

Authors Note: BE AWARE THAT ChatGPT SOMETIMES MAKES UP THE NAMES OF BOOKS, PODCASTS, AND OTHER RESOURCES. In an attempt to locate several of the podcasts above, they could not be found. A colleague discovered that when asked to generate ten books on a particular topic, he was able to find only eight of them on Amazon. When pressing ChatGPT further, **the Chatbot admitted to making up the other two!**

Check out our previous newsletter at: <https://www.linkedin.com/pulse/ai-interview-covering-career-topics-chatgpt-dr-scott/>

What questions do you think remain unanswered?

What opportunities might come to light that we haven't even considered?

What resources are needed to prepare for our rapidly changing future?

Please share your thoughts, comments, and insights!

Appreciate your taking the time to Learn, Share, and Grow together with us!!

In appreciation,

Dr. Scott

#AI #CareerOpportunities #ChatGPT #FutureForwardAcademy #DrScottCPA



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