Artificial Intelligence : Embracing Change

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Abstract

My research hopes to challenge prevalent fears surrounding automation and artificial intelligence (AI), arguing that historical trends suggest AI's impact will have a positive trajectory for human progress. Despite widespread fear mongering by the news about job displacement, the paper has an optimistic view and emphasizes that technological revolutions, like the industrial ones, have consistently improved human productivity and well-being.

Contrary to the bleak narrative of increased unemployment, the research encourages viewing automation as an extension of historical progress. It suggests that, similar to past shifts from agriculture to industry, automation will lead to the creation of more fulfilling occupations.While we must acknowledge short-term disruptions to the job market, the research contends that AI and automation, as the fourth industrial revolution, will follow this historical pattern, creating new, more meaningful employment opportunities. Using the trucking industry as one of the many examples, I hope to illustrate how automation can eliminate undesirable tasks, increase efficiency, and improve safety by removing human errors.

To conclude, my research advocates for an optimistic outlook on the impact of AI and automation. By examining historical precedents and showcasing specific industry benefits, the research paper asserts that embracing these advancements will lead to increased safety, efficiency, and a more fulfilling future for humanity.

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The Robots are coming! The Robots are coming! For good or for bad, however, is a question many of us are pondering today. With the rapid progression of technological advancements, a prevailing fear amongst the general population is artificial intelligence and its potential implications. Menial jobs with the help of artificial intelligence and machine learning are being automated and there is speculation and fear on which sectors will be affected next. Exploitative headlines in the news fear-mongers the population with doomsday prophecies fueling mass hysteria, prophesying a job apocalypse due to robots. Political figures, like Andrew Yang, amplify the dread and run on platforms solely dedicated to addressing issues of artificial intelligence and warn Americans of a destabilized society filled with potential riots and instability because of AI. The fear toward artificial intelligence may be unwarranted, and its impact on society could potentially benefit humanity. At first glance artificial intelligence may seem scary due to our preconceived notions influenced by depictions of intimidating robots in movies. However, artificial intelligence possesses the potential to positively reshape our society. It can enhance labor markets, especially in industries like trucking, generate new employment opportunities, elevate productivity and efficiency, and introduce precision across various fields.

The fear of artificial intelligence stems from our fear of a changing society. The same fear that existed throughout historical times, including during the beginning of the industrial revolution. The industrial revolution restructured society and moved us from an agrarian society to an industrialized one. Majority of the farmers lost their way of life and transitioned to factory jobs. However, the transition did not worsen the society, as this transition proved to be immensely beneficial . Next The industrial revolution, marked by the advent of steam power and

industrial machinery, facilitated increased efficiency, innovation, and, crucially, an improvement in the quality of human life. The positive impact was evident in the widespread prosperity, improved wealth distribution, and elevated standards of living and longevity. Subsequent industrial revolutions, namely the second and third, continued this trajectory of progress. Artificial intelligence, potentially marking the arrival of the newest technological revolution, is surely to continue this trend of increased benefits.

Humans tend to worry about the future for better or worse. In his 2020 academic journal, "Worrying about Automation and Jobs," Professor J.R. Shackleton addresses the topic of automation and argues that we should ease our tensions and reconsider our anxieties regarding artificial intelligence. He asserts that “there have been many false alarms in the past” ranging from Presidents Kennedy’s initiatives in the 1960s to Jeremy Rifkin's best selling book “The End of Work” in 1995, which all warn of potential widespread unemployment due to automation (pg 2). In Kennedy’s presidential campaign of 1960, Kennedy made a promise to resolve the issue of technological unemployment. At the time many news outlets exaggerated the issue of rising unemployment due to technology. This was also a main theme in Jeremy Rifkin’s book. Rifkin predicted an economic collapse due to technological advancements. He thought new technology would restructure the market for labor and redefine the role of individuals in society. As time has passed many have quickly realized these bold claims are yet to be true. Going forward Shackelton suggests that “the rest of us should probably worry less”(pg 10). Such forewarnings regarding the ills of artificial intelligence are unwarranted because of the potential positivity artificial intelligence will bring to society.

While many fear the inevitable transition, it is however important to notice the benefits it will bring to our society and to adapt to the changing times. The trucking industry often serves as

a focal point in discussions about anticipated job losses, with truck driving considered among the occupations at highest risk of full automation. However, not everyone subscribes to this viewpoint. In their 2020 article, "Truck-Driving Jobs: Are They Headed For Rapid Elimination?", economists Maury Gittleman and Kristen Monaco, Associate Commissioner in the Office of Compensation and Working Conditions at the U.S. Bureau of Labor Statistics, challenge the notion of a massive job loss in the trucking industry due to automation. They argue that the projected job loss is overstated, asserting that even with autonomous vehicles, there will still be non-driving tasks to be performed (pg 3). Gittleman and Monaco emphasize that certain tasks performed by truckers are not easily automated, citing examples such as loading and unloading trucks and customer service interaction, which require human intervention (pg 6). They conclude that the impact of automation on trucking jobs will be more limited than journalistic accounts suggest (pg 20). In alignment with Gittleman and Monaco's perspective, explorer Ernest Shackleton would likely view the alarm raised by newspapers about job losses in the trucking industry as another false crisis, emphasizing the resilience of certain tasks that defy full automation.

Artificial intelligence offers a solution to the labor shortage in less appealing fields like trucking, where recruitment faces challenges due to its unattractive lifestyle. Many are reluctant to join the industry. The demanding nature of the job, marked by a nomadic lifestyle on the road and prolonged periods away from family and home comforts, contributes to a high demand for truckers. Additionally, the health risks associated with extended hours of sedentary work in the trucking industry are notable. In his 2020 article, "Obesity and Other Risk Factors: The National Survey of U.S. Long-Haul Truck Driver Health and Injury," health scientist Karl Sieber highlights the adverse effects of the trucking lifestyle on health. The article notes that 69% of

long-haul truck drivers are obese, compared to 31% in the broader U.S. working population (pg 6). Sieber further points out that truck drivers face increased risks of chronic diseases such as heart disease, diabetes mellitus, and hypertension (pg 2).As automation advances, there is potential for positive impacts on the health of truck drivers. Truck drivers can start to live healthier lifestyles as they will not be required to drive during their entire route.With self-driving trucks taking over certain tasks, drivers can lead healthier lives by incorporating physical activity and rest into their schedules. Maury Gittleman and Kristen Monaco would support this perspective, suggesting that autonomous trucks can relieve drivers of unhealthy, grueling, and strenuous tasks, empowering them to make healthier choices even while on the road.

While widespread apprehension focuses on projected job losses, many overlook the potential of artificial intelligence (AI) to create millions of new jobs. The implementation of AI enhances industry efficiency, fostering the growth of larger industries with ample opportunities for new hires. As the economy adjusts in the short term, individuals can transition to new jobs within emerging markets. In their 2019 article, "Various perspectives of labor and human resources challenges and changes due to automation and artificial intelligence," Professors Jessica Bayón Pérez and Andrés Jerónimo Arenas Falótico explore the employment implications of automation. They assert that approximately "75 million jobs will be destroyed due to robots or software using AI, with the subsequent creation of 133 million jobs" (pg 2). This net positive in job creation results from technological advancements involving automation, making work more efficient for humans. For instance, companies utilizing AI in HR processes can increase hiring processing efficiency by up to 300% (pg 3). Highlighting a key nuance, Pérez and Falótico emphasize that certain tasks, particularly those prioritizing communication, cannot be effectively replaced by automation. Human preference for interaction over robot communication

underscores the limitations of AI in this domain (pg 6). Much like Shackleton, Pérez and Falótico suggest that jobs will not vanish, but rather, automation may spur growth in employment, challenging the prevailing narrative of widespread job displacement.

History tends to repeat itself. Many people are now once more concerned about the prospect of their professions as technologies continue to improve. They reference advanced artificial intelligence technologies like self-driving cars, cleaning robots, etc. that can disturb the current labor system. However, many of the concerned overlook the fact that automation is not the first major technological transformation in the labor market. Past technological advancements did not lead to a net decrease in employment, but quite the contrary. Economist James Bessen in his Academic Journal, "Automation and jobs: when technology boosts employment.", published in 2019, addresses the topic of employment in relation to automation and argues that automation and artificial intelligence does not necessarily lead to a loss of jobs. In the past "productivity-enhancing technology increases industry employment instead" (pg 1). For example in sectors such as "manufacturing, jobs grew along with productivity for a century or more" (pg 1). Contrary to popular belief technological innovation, in fact, has long been a constant aid to human productivity and employment. Bessen, similarly to Perez and Falótico, suggests that automation will lead to growth in employment.

Automation not only increases productivity but also has the potential to solve many of our current problems. Automation is slowly being implemented in the medical industry to assist doctors with many difficult procedures. Researchers, R. Mirnezami and A. Ahmed , in their article "Surgery 3.0, artificial intelligence and the next-generation surgeon", published in 2018, addresses the topic of artificial intelligence in the medical industry and argues that automation is an opportunity to enhance medical procedures. One of the myriad of reasons to incorporate

automation is superior accuracy for example “ in the detection of lymph node metastases in breast cancer using a deep learning algorithm, compared with conventional pathology” (pg 1). As automation improves the “degree of computational precision is simply not possible otherwise”(pg 2). Automation is not suspect of human error. By embracing automation there will be an increase in safety, precision, quality, and reliability. Automation presents an opportunity to enhance medical care while complementing medical practitioners rather than replacing them. With hospitals often understaffed, stressed out and overworked medical practitioners would largely benefit from the extra hand. This is similar to Perez and Falótico who argue that automation has led to increased efficiency in tasks such as hiring processes. With the use of new assistive technology the healthcare service would be expedited in a similar fashion allowing for more patients to be treated sooner.

Addressing the perennial issue of disengaged students, educators have long sought more personalized and individualized approaches to enhance learning effectiveness. Artificial intelligence (AI) emerges as a transformative tool, offering personalized learning experiences for every student. Dr. Michael J. Timms, former associate director of the STEM Program at WestEd, advocates for the integration of AI in education in his 2016 academic journal, "Letting Artificial Intelligence in Education Out of the Box: Educational Cobots and Smart Classrooms." Timms contends that educational robots, working alongside human teachers, can play a crucial role in addressing classroom challenges. These robots, equipped to "flag and attend to learners who need extra help," provide immediate assistance that may be challenging for human teachers (pg 3). The collaboration between technology and traditional teaching, according to Timms, will lead to more effective learning outcomes.Timms emphasizes the urgency of exploring and incorporating AI in classrooms, enabling autonomous technology to assist students in the near

future. This technological integration, however, is not confined to education alone. Aligning with Timms' perspective, Gittleman and Monaco advocate for the inclusion of collaborative robots (cobots) in various tasks. They emphasize that jobs will not be replaced but rather assisted, echoing the potential benefits of cobots mentioned by Timms

Conclusion

Ever since the first industrial revolution, the welfare of mankind has progressed with science, medicine, and technology. We shifted from an agricultural to an industrial society, losing many farming jobs in the process but creating jobs in astronomy, manufacturing, programming, and more. These revolutions not only boosted employment but also significantly increased the standard of living for all. Automation is an extension of such revolutions that warrants anticipation and excitement rather than fear for our jobs. As old occupations fade away and eventually disappear, new ones emerge. Artificial intelligence has already addressed numerous societal challenges and will continue to do so. Currently, it is addressing issues in labor markets, particularly in the trucking industry, enhancing productivity, safety, precision, and more. While we solve our old and existing problems, new problems and challenges will arise. Fortunately, there is more than enough work to keep us occupied for many years to come.

References

Shackleton, J. “Worrying About Automation and Jobs.” *Economic affairs (Harlow)* 40.1 (2020): 108–118. Web.

Gittleman, Monaco. “Truck-Driving Jobs: Are They Headed for Rapid Elimination?” *Industrial & labor relations review* 73.1 (2019): 3–24. Web.

Sieber, Robinson. “Obesity and Other Risk Factors: The National Survey of U.S. Long‐Haul Truck Driver Health and Injury.” *American journal of industrial medicine* 57.6 (2014): 615–626. Web.

Jessica, Andrés. “Various Perspectives of Labor and Human Resources Challenges and Changes Due to Automation and Artificial Intelligence.” *Academicus international scientific journal* 20.20 (2019): 106–118. Web.

Bessen, James. “Automation and Jobs: When Technology Boosts Employment.” *Economic policy* 34.100 (2019): 589–626. Web.

Mirnezami, Ahmed. “Surgery 3.0, Artificial Intelligence and the Next‐generation Surgeon.” *British journal of surgery* 105.5 (2018): 463–465. Web.

Timms, Michael. “Letting Artificial Intelligence in Education Out of the Box: Educational Cobots and Smart Classrooms.” *International journal of artificial intelligence in education* 26.2 (2016): 701–712. Web.