Navigating the Impact of AI in the Job Market

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Imagine a world where machines perform tasks without humans. This isn't just the plot of a movie (like the film *WALL-E*) but slowly becoming a reality in our lives today. This statement fuels the fears of people losing their jobs. The idea that AI will just completely erase jobs. Especially jobs that require less skill but are jobs that a lot of people work in to help save money and to build their way up. These can be jobs from waiters all the way to some software developers too. I've been to a couple restaurants now where they just have tablets where you can order from, and then the chefs put what you've ordered onto robots that bring the food to you. Those restaurants have cut down on a lot of their waiters. On the other side, you have the huge layoffs that difference software companies are doing. It can be scary not knowing if and how long your job will be unaffected by AI. But I'll be arguing that AI can create new jobs and opportunities for people that may have lost their jobs or even that just want to move to something else.

While it is true that AI can indeed automate specific work tasks or even entire jobs, this emerging technology also opens up a vast array of new opportunities. For example, some applications of AI technology can enable a range of new productivity and efficiency gains in a

variety of different settings, allowing human workers to redirect their energy and focus to more complex and strategic tasks. Moreover, as AI systems become more complex in design and use, the development, application, and maintenance of these technologies will likely require its own new set of professionals. Opening some more jobs for ones that were lost. Second, while routine manual labor jobs can be easily automatable, much of the employment that will be threatened by AI involves non-routine cognitive tasks. Workers are not just being replaced but rather working together with AI. Like the new software engineer AI named "Devin" that a startup called Cognition Labs created. In "Software Engineers are getting closer to finding out if AI really can make them jobless", Hasan Chowdhury (2024), a senior technology reporter for Business Insider writes, "… wants Devin to be seen as a 'tireless, skilled teammate' capable of building alongside humans." Human-AI teams can complement workers' abilities and expand their scope of action. Chowdhury (2024) also quoted, "With Devin, engineers can focus on more interesting problems and engineering teams can strive for more ambitious goals," from a blog that the startup posted. Individuals will eventually become capable of tasks that previously only AI could execute or that simply weren't feasible – expanding their skill set while accelerating the pace of their work. Working with AI may not prevent us from being replaced in the big picture (whatever that looks like), but it opens up a variety of job roles and industries we haven't considered before. For example, experts are expecting a big surge in the specialized field of AI ethics and explainability. These skills barely existed, if at all, five years ago. Moreover, as AI becomes more and more a part of the economy, it brings together people across different fields in common projects to apply technology to solving problems. Not only do such projects bring beneficial innovation, but it also creates a more diverse workforce, with more diverse voices and skills in the room. By making AI

work for us rather than against us, we may find that it works to foster economic growth and job creation.

In contrast to what is commonly concluded, the job-replacement pattern that emerges from the adoption of AI technologies is not just a broad wave of mass-layoffs, but, rather, a more nuanced process of the speed and uncertainty of jobs changing. In “How Will Artificial Intelligence Affect Jobs 2024-2030”, Mark Talmage-Rostron (2024) said, “AI will be taking some jobs, but it will be creating new ones!”. A clear example of this phenomenon is the rise of jobs in data science, machine learning and artificial intelligence and the decreased need of jobs like front and back-end development. As development of these new fields continues, AI can be used as a tool to automate the tasks that don’t require as much creativity and manual labor to do like back-end development. Compared to something like data science, AI can write fairly good code for front end and even for the back end processes on websites. In fact, by automating those repetitive and routine tasks, and reducing the need for human involvement in those areas, AI increases human productivity by allowing workers to focus on more challenging tasks that call for innovative solutions and problem-solving abilities. Some professors from Stanford University and MIT did 3 studies on if AI made employees more productive. The head of these studies was Erik Brynjolfsson. In “AI Tools Raise the Productivity of Customer-Support Agents”, Jakob Nielsen (2023), a co-founder of Nielsen Norman Group where they conduct many user based research experiences wrote, “Brynjolfsson is the world’s leading expert on the economic impact of technology use.” In one of the studies done they had two groups of customer support agents, where one of the groups was able to use an AI tool to help them on calls and the other was not able to use it. They found that the group that had access to the “AI tool handled 13.8% more inquiries per hour than agents without AI assistance… AI also accelerated learning for new

agents" Nielsen (2023) also wrote. And that was just over one of the three studies done. The three studies they did consisted of customer support agents taking calls, HR professionals writing business documents, and having programmers code a small project. They found that across all of them, productivity went up by around sixty-six percent. This just goes to show how well humans can use AI to their advantage.

The impact AI will have on the job market won't be uniform across all industries. It widely depends on the country and region, as well as the industry itself. There are certain jobs that are much easier to implement AI into and there are some that are much harder. In "AI Will Transform the Global Economy. Let's Make Sure It Benefits Humanity." Kristalina Georgieva's (2024) analysis suggests that the impact of AI is deeply nuanced, influenced by countless factors including cultural attitudes towards technology, education systems, and governmental policies, and even just the region you're looking at. In advanced economies where AI adoption is accelerating, there is visible tension between the excitement of technological progress and the apprehension of potential job displacement. In some instances, AI serves as a catalyst for job creation, particularly in sectors like cybersecurity, data analysis, and software development, where specialized skills are in high demand. Conversely, in regions with less robust technological infrastructure or where regulatory frameworks lag behind, the integration of AI into the workforce may be hindered, making existing inequalities worse. It is evident that the transformative potential of AI is entwined with socio-economic contexts (Georgieva 2024). This means that many different places or industries will need their own tailored approaches to mitigate its disruptive effects while maximizing the benefit it can give.

As a Computer Science student, I've witnessed the impact of AI on the job market firsthand through family members. "Recent data shows AI job losses are rising, but the numbers don't tell the full story" was the headline for Rachel Curry's (2023) article. Curry went on to write, "More than one-third (37%) of business leaders say AI replaced workers in 2023, according to a recent report from ResumeBuilder. Huge layoffs in the tech industry and the development of AI software engineers like 'Devin' have made the job market seem impossible for junior developers. A cousin of mine was recently part of the close to 27,000 people that got laid off from Amazon. And he is finding it very hard to look for new jobs just because a lot of bigger companies (like Amazon) are putting more and more money towards making AI like 'Devin' better and better. However, my education has also shown me the potential of AI to transform industries and create new opportunities. Rather than fearing AI, we need to start looking at the things that AI can't do right now. Going back to my example of my cousin, he is starting to learn languages that actually program different AI so in the new wave of AI he can help to make them and a pretty similar thing is happening to other tech engineers I know as well. As for me, seeing as I still have a few more years of school left, I'm going to try and take advantage of this chaos being created right now and try to get ahead of the curve by also learning more about other programming languages and AI.

While AI may provide significant opportunities for creating jobs and enabling innovation, its speed of development brings with it an array of ethical considerations that must be considered. For example, in "People are worried that AI will take everyone's jobs. We've been here before.", David Rotman (2024) says that the rapid development of AI could potentially widen the existing socioeconomic gap and worsen problems related to bias in the design of algorithms. Policymakers must therefore heavily pursue the laws and rules needed in order to

address such issues. Which can open more positions for people seeing as this is something AI can't (and shouldn't) do. This could involve examining different paths to ensure the benefits of AI reach those who need it most. Others have argued that further investment in education and training could also be necessary, to ensure the workforce is able to navigate a changing jobs landscape. Some companies, such as Apple, Amazon, and Facebook, have also suggested that the development of AI should be stopped for a couple years to make sure it doesn't get out of hand. Using this time to get the laws need in place. A policy approach like this could also pose significant operational challenges, from ensuring fair judgments and bigger companies like the ones named, to still continuing to work on AI behind everyone's backs (Rotman, 2024). Nevertheless, without oversight, the development of AI will continue to bring many risks that need to be looked fast yet thoroughly.

Ultimately, a solution that meaningfully integrates AI into the labor market requires an elaborate and coordinated approach among different stakeholders, including governments, business and civil society organizations. Constant dialogue and renewed cooperation allows these groups to face the problems that will arise with AI implementation and minimize the negative impacts while maximizing the positive ones. There may be a need for strong regulation of AI development and use that promotes responsible use, and investment in research and development to innovate in the AI space. In addition, efforts towards reskilling and upskilling workers to become proficient in working with new technologies are critical. This collaborative approach can help turn AI's potential into a means to build an inclusive and prosperous society in which can help people adapt to the certainty of rapid technological change.

To summarize, AI will pose many problems and complications in the job markets but we need to make sure to see the good in it as well. We need to make be able to get on top of it before it gets out of hand. People contribute to society in ways that AI might never be able to. Despite the fact that AI brings about transformation of jobs and the creation of new roles, we need to dispel the myths that AI will entirely destroy jobs – or even that AI will end work entirely. So, we should start by looking at the possibilities and opportunities, and at the new skills and that AI brings. Only then can we address questions about what jobs might go and what new opportunities might emerge and the challenges that that process will bring. Whether it is dairy farmers, truck drivers, doctors, or people working in tech. It's important to recognize that jobs becoming obsolete is only one part of the equation, and only partly explains what's happening in workforce markets. That doesn't mean AI simply acts like a magic wand transforming everything it touches. It's a much more subtle interaction. The same is true for terms such as augmentation and replacement. As we come to terms with the AI revolution, this points us towards a particular mindset. Having a deep personal reflection on the subject, and critically examining the actual research, shows that most of the stories about the impact of AI on work and jobs that dominate broader media and conversations – both pessimistic and optimistic – don't add up and aren't the full and real truth. Rather than being one or the other, the impact of AI on jobs and the workforce appears to be both.

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