5-2024

The Artificial Intelligence Revolution

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An Honors Thesis in partial fulfillment of the requirements for the degree Bachelor of Science in Business Administration in Management

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Fayetteville, Arkansas

May 11, 2024

Introduction

Looking back in history, major developments in the way that tasks are completed have completely changed the way the world operates. These technical developments have ultimately allowed for humans to progress in ways many people once considered impossible. Looking back at just a few of these developments we can start with the Agricultural Revolution in the eighteenth century. With new and improved farming and livestock breeding techniques, food production increased exponentially, allowing for improved health and a large spike in population due to longer lifespan. Similar to the Agricultural Revolution, the Industrial Revolution

streamlined the production process, leading to impactful inventions such as the steam engine, and driving a thriving economy. Perhaps the greatest of modern day technical developments has been the creation and improvement of artificial intelligence (AI). Artificial Intelligence is intelligence exhibited by computer systems and machines. AI is a new branch of technological advancements that allows for a computer system to essentially think for itself with little instruction. While other technological "revolutions" have occurred in modern society, we are currently experiencing a period that I have deemed "the Artificial Intelligence Revolution". Whether it be for stock market predictions, smart home devices, or even just for entertainment on your cell phone, artificial intelligence, or AI, has become more prevalent than ever in the past few years and is only going to grow. According to a study conducted in 2021, "AI global funding doubled to $66.8 billion, and a record 65 AI companies reached $1B+ valuations, up 442% from the previous year. Each year, more and more companies and governments worldwide adopt AI solutions." (International Trade Administration)

The Rise of Artificial Intelligence

AI software has been an intriguing topic for decades now, but only over the last few years has it been at a level it has been now and been as accessible as it is now. The term "artificial intelligence" has been used in the United States since the 1950s to describe up and coming technology. Although at this time, artificial intelligence was merely a concept with a scientific possibility (Harvard University). With programs such as Chat GPT, Grammarly, and even a recently added AI software on popular social media platform, Snapchat, almost anyone can access AI platforms with ease. The rise in popularity and access is occurring due to several reasons. Advancements in technology, including the increased capabilities of AI, along with many businesses investing more into AI software development. I have witnessed this firsthand through working for a major corporation, many aspects of computer-related jobs utulize some from of artificial intelligence. Advanced technology, such as more advanced computers, has allowed for AI to be developed with much more ease and at a much quicker rate. When discussing the advanced capabilities of AI, we can see how AI has become so much more than just an algorithm set to give concrete answers. AI can now generate images with specific tones based on human instructions; AI can make financial decisions based on indications of risk aversion, i.e., if you want to be aggressive or safer with your investing; AI can even predict what kind of information you are looking for based on pattern recognition of your past uses of AI. This pattern-detecting artificial intelligence is seen everyday. Once I have visited a web browser one time, it is remembered and suggested each time I use a search engine. And as I mentioned, many businesses are becoming more aware of how much AI can be used in their workplace to streamline business practices, spurring investment in AI software developers.

AI has become very popular in the workplace. The World Economic Forum estimates that AI will replace 85 million jobs by 2025. we must look at how and why this could occur and examine why so many people could be affected by the rise of artificial intelligence. There are many key factors explaining why AI can, and will, replace many jobs over the next year, including speed, consistency, and automation. AI can do what most humans can do in a fraction of the time, while eliminating or at least largely decereasing the aspect of human error. Humans make mistakes all the time, and then spend even more time correcting these mistakes. However, AI programs are marketed as being able to complete tasks quickly and without error. AI is also consistent. Artificial intelligence will anot get fatigued or distracted by outside factors, bringing

only consistent results on all aspects assigned tasks. “AI will never be late to work and will never have to leave work early due to unforeseen circumstances” (Wharton Global)

AI in the Workplace

Artificial intelligence is becoming very prevalent in many aspects of the workplace. Whether it be to replace certain jobs, or simply to make certain tasks and jobs easier to complete. Artificial intelligence is affecting the workplace environment profoundly. According to a survey by *Forbes*, the three most common ways that businesses are using AI in the workplace are to “[i]mprove and perfect business operations, to help with cybersecurity and fraud management, and as a personal assistant”. Closer examination of these three topics shows how AI has improved and perfected business operations by automating tasks to occur with less risk of error and increased speed. AI has been predicted to be able to automate up to 45% of tasks within the workplace and create a productivity increase of approximately 40% due to the efficiency and reliability associated with these platforms. McKinsey Consulting has stated that AI can reduce time of manual tasks by 30-50%. Manual tasks include data entry, and sales statistics. If used correctly, artificial intelligence could reduce errors in data processing by 25%.

Looking at how AI has improved cybersecurity, AI can be used to actively detect fraud, potential malware, phishing practices, and most importantly will actively teach itself to increase efficiency at detecting potential security risks. AI-based cybersecurity has been proven to detect 85% of potential cyber threats with less than a 1% margin of error (Science Direct).

Artificial Intelligence can also be used as a personal assistant in a way. Whether it be to schedule meetings, organize work, or even to help complete work-related tasks, AI can increase productivity. Accenture, a global professional services company, reports that using AI can save employees on average, 11 hours of work per week. This results in a productivity gain of up to 69% per employee.

AI is also being used in the hiring and onboarding processes of potential employees. Approximately 58% of CEOs already believe that AI will significantly change their approaches to recruitment and talent acquisition along with the time-to-hire being able to be reduced by 50% with the assistance of AI (Deloitte). AI can quickly screen resumes and social media profiles to identify qualities and experiences that could be beneficial, or harmful, to a company. Automating such tasks substantially reduces labor costs to increase cost efficiency. Hiring is often time sensitive ,and involves crucial decisions to build healthy, productiveworkforces and company cultures., and AI is a large way to streamline this process and improve it in many ways. AI maximizes efficiency in the hiring process, and may reduce or eliminate unconscious bias, allowing for a more diverse workplace. However, this is not foolproof. Embedding bias into AI programming could exacerbate biased outcomes without frequent re-examination. Companies that used AI platforms in their hiring process have seen a 41% increase in gender diversity on one hand, and when it comes to the applicants, 63% believe that AI hiring processes are much less biased (Deloitte). AI has provided many benefits in onboarding and training as well. AI allows for more personalized learning based on what the employee needs, and facilitates the creation of onboarding and training materials based on job requirements.

. As mentioned earlier, AI is expected to replace 85 million jobs by the end of the year. While this could give many people a grim outlook on the future, the World Economic Forum predicts that AI will create approximately 97 million jobs in the fields of data analysis, AI development, and cybersecurity. Companies now need employees who know how to implement AI programs in the workplace, train other people how to use them, and perform necessary

maintenance when needed. Additionally, given the potential productivity gains AI can create, many businesses want to hire candidates who can advance that.

The Further Effect of AI

AI has had a major impact in the world outside of work. A survey by Pearson Education, an educational publishing and services subsidiary of the international corporation Pearson plc, has shown that 77% of educators believe that AI will influence their teaching. While 67% of educators have already started using AI in their classrooms. Parallel to how AI can be used in training and to help create learning plans for employees, AI has also had a major impact on students' learning in the classroom. Many students are already using AI platforms such as Chat GPT to help them on their homework, tutor them on their class subjects, and even to completely write essays for them. In an article by *Education Weekly*, Glenn Kleiman, a senior adviser at the Stanford Graduate School of Education was quoted saying that schools need to "accept that these changes are big, real, and aren't going away." Kleiman went on to further discuss that rather than looking at these changes as a negative, they should be viewed as a resource, such as a textbook, or a calculator, and educators should focus on how they can help them use these tools most efficiently and safely.

AI has made a positive impact in many people's lives, but many people worry about how safe it is. For example, in February of 2023, popular social media platform Snapchat, added an AI chatbot called "MyAI " that was automatically installed into each user's app and could not be removed. This could possibly be seen as a useful tool but could also be seen as a breach of privacy. Many of the users of this app have not been taught how to safely and properly use AI platforms and now they have one at the push of a button. Many people have concerns with this "MyAI" system, and these concerns are not exclusive to Snapchat. A survey conducted by the Pew Research Center found that 64% of Americans are concerned with the collection of personal data by AI platforms, with 58% being worried about potential data breaches in AI platforms. The ability for AI platforms to track and monitor online activity has caused concernabout invasion of privacy and questions about what else AI could be used for.

The primary issue with AI ultimately stems from a lack of understanding. The Center for the Governance of AI at the University of Oxford reported that only 9% of the population feels very knowledgeable about AI, according to a recent survey. This means that only 9% of the population feels very knowledgeable about how to use AI effectively, and understands its full capabilities and risks.

The Artificial Revolution

Ultimately, the introduction of artificial intelligence offers many benefits, which will grow exponentially with increased machine and human learning and broader application of AI to human activities. Artificial intelligence has already changed many practices in the workplace, in education, and in everyday life. While many people are concerned about the rise of AI in our society, we must accept that this change is happening whether we want it to or not, and it is important to teach ourselves how to use this resource in an efficient and safe manner. Recent data suggests that over 50% of companies worldwide plan on incorporating AI into their business in 2024, with 73% of U.S. businesses already using AI in some capacity in their business. In 2020, the AI market was valued at approximately $62 billion with expectations to grow to approximately $734 billion by 2027 (Deloitte). We are experiencing a technological revolution similar to the Agricultural Revolution and Industrial Revolution of the past. While the Artificial

Revolution has changed the world in abundant ways, it has brought about many concerns. I believe we will continue to see many changes in the future concerning artificial intelligence, and I believe that we should be both fearful and excited for what the future of artificial intelligence will bring.

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