Computers are stupid. They must be shown exactly how to carry out every task in order to be effective. Artificial intelligence seeks to resolve that problem. Artificial intelligence, as defined by one of its pioneers John McCarthy, "is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence" (McCarthy). In other words, artificial intelligence, colloquially styled as AI, is the task of recreating and simulating human intelligence with machines. The history of artificial intelligence is extensive. John McCarthy coined the term “artificial intelligence” in 1956. In 1971, Terry Winograd, a PhD student at MIT, designed an AI system that could understand basic commands in the English language, a feat that was previously unheard of. In 1979, a significant milestone was reached when Hans Moravec built the Stanford Cart - the first fully self-controlled vehicle. Meanwhile, Marvin Minsky, an AI specialist at MIT, was publishing his theory on neural nets, a technology that closely mimics the way a human brain functions. This innovation revolutionized artificial intelligence, and breakthroughs were made with increasing fervor. In 1997, a chess-playing artificial intelligence system defeated world-renowned chess grandmaster Garry Kasparov. As the new millennium approached, the processing power of computers continued to increase, thus creating the possibility for more innovations in the field of artificial intelligence. Today, AI plays an integral role in daily society. It helps doctors and surgeons treat patients, goes on military expeditions, guides missiles, and can even vacuum the floor. In the modern world, artificial intelligence benefits the economy, saves time, and protects lives.

Artificial intelligence has massive economic potential. With every new technology, there comes a bubble of public interest, and thus an influx of cash flow. The benefits do not stop here, however. AI creates a wide array of new jobs, as well as establishing new industries and improving overall human intelligence.

AI, similar to other innovative technology, creates a large amount of new jobs when it becomes popular. As Blay Whitby, a leading author on artificial intelligence states, “There is a general economic principle that suggests new technologies usually only cause unemployment during a transitional period. Following this transitional period, higher levels of economic activity and employment are generated by the widespread application of new technology. There will be new jobs and new markets, which are likely to be very different from those existing previously” (Whitby 123). In other words, after a small and temporary lapse of economic activity, a proverbial boom would occur, resulting in a huge number of new occupations. This would be extremely beneficial to the country in which the developments are being made, specifically due to the vastly improved employment rate. Mr. Whitby further reasons, “This (massive creation of new jobs) certainly seems to have happened in the case of information technology. Why would we expect AI to differ from this general pattern?” (Whitby 124). As Mr. Whitby declares, after the advent of Information Technology, or IT, there was a fairly colossal fiscal boom. This prosperity resulted, as predicted, in the advent of a greater volume of professions. As Whitby explains, it is safe to assume that a similar financial explosion will result from artificial intelligence, a technology that is arguably broader and more significant than IT. The main application of AI is in computers and robots, both of which are already multi-billion dollar industries. Artificial intelligence creates smarter computers and robots, thus complicating the manufacturing, assembling, and shipping pipelines that are necessary for each business. With this complication comes the opportunity for more jobs. More humans would be required to oversee the assembly of the parts, as well as the manufacturing of the components and the transportation of the finished products. The potential benefits of artificial intelligence clearly outweigh the risk of Whitby’s theorized “transitional period.”

Artificial intelligence does not just create more jobs. It creates entirely new industries. Human intelligence is extremely advanced and complicated. It stands to reason that while attempting to simulate such intellect, many significant breakthroughs will be made in the economic world. The most significant example of one such breakthrough is data mining. Data mining, as defined by Jason Frand, is “the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified” (Frand). Basically, data mining allows companies and individuals alike to receive financially beneficial information about their customers and businesses. It allows companies like Google to generate useful ads based on search queries, thus increasing the amount of clicks on these ads, which in turn increases Google’s revenue. Data mining also helps search engines index web pages and provide more relevant search results. In other words, the artificial intelligence at the core of data mining technology can determine if a web page is relevant to the search query input by the user. As the reliability of search results increases, so does the company’s reputation, and subsequently, their revenue. As Mr. Whitby puts it, “Machine learning may not have found a solution to the knowledge acquisition problem as originally proposed, but in data mining it found something just as wonderful” (Whitby 49). Generally put, the research being done on artificial intelligence serves a double purpose – not only does it create breakthroughs in technology, it also creates entirely new industries, like data mining, that have limitless economic potential.

AI benefits the economy in a more indirect fashion. The most practical use of AI in a daily environment is to make humans smarter. Whitby expertly says, “ the use of AI technology is that it will enable us humans to become effectively much more intelligent” (Whitby 124). Essentially, the main purpose of artificial intelligence is to help make humans more intellectual. A universally more intelligent human race would have a massively positive effect on the world’s economy. Smarter people tend to make smarter decisions. As well as better investing and management, there would also be a vast amount of innovations in technology. As Mr. Whitby’s previous economic reasoning testifies, each of these breakthroughs would create their own fiscal boom. Simply put, the extra brainpower generated by artificial intelligence would set off a “chain reaction” of sorts, sending the economy into a prosperous upturn.

The economic possibilities under the umbrella of artificial intelligence are virtually limitless. It can create entirely new industries and professions, as well as make the human race collectively smarter, which in turn creates the chance for utterly pioneering fiscal opportunities.

AI has the ability to save countless hours of time. By making day-to-day activities faster, carrying out jobs not fit for humans, and providing a better Internet experience, artificial intelligence cans save large chunks of time and prevent humans from being forced to do mundane tasks.

Artificial intelligence streamlines daily tasks. It can greatly reduce the amount of time people spend performing extraneous chores, like adjusting the thermostat or turning off the lights in a room. As Michael and Susan Anderson put it, “‘smart homes,’ with computers controlling everything from lighting to the A/C, can be thought of as robots whose body is the entire home” (Anderson). Effectively, autonomous robots powered by artificial intelligence play a huge role in day-to-day operations by allowing individuals to stop worrying about commonplace aspects of life, like the room temperature. The modern telephone system is extremely advanced, largely due to artificial intelligence. Before the advent of AI, every time a call was made, an operator was required to find the correct telephone line to connect the call to. This process was both slow and cumbersome. Artificial intelligence has simplified the procedure. As Blay Whitby asserts, “You dial a number on your cell phone. The AI program that allocates routes according to demand is quite invisible” (Whitby 134). Basically, AI comes into play every time we make a phone call and greatly reduces the time needed to begin talking. Thanks to artificial intelligence, the time it takes to start chatting with a friend or make an emergency phone call has been greatly reduced. Another of the tasks most commonly carried out is typing. While many people are adept typists, regular speaking is a much more efficient method of communication. Artificial intelligence, to a certain degree, can reduce the need for typing by employing a technology called speech recognition, or speech-to-text. Artificial intelligence specialist John McCarthy says, “In the 1990s, computer speech recognition reached a practical level for limited purposes. Thus United Airlines has replaced its keyboard tree for flight information by system using speech recognition of flight numbers and city names. It is quite convenient.” (McCarthy). This speech recognition system McCarthy writes about is commonly employed by those who need to write down large quantities of information in a relatively short period of time. It also helps those who are slow typists, or are better at voicing their thoughts than typing them. By and large, artificial intelligence is particularly useful in streamlining day-to-day processes and can be very helpful in making things easier in life.

AI is also useful when it comes to performing professions or chores that are somehow not fit for humans. Whether it’s manufacturing cars or disarming IED’s in Afghanistan, artificial intelligence can prevent the waste of immeasurable lengths of time. As Bill Gates, computer pioneer and the world’s richest man puts it, “Think of the manufacturing robots currently used on automobile assembly lines as the equivalent of yesterday's mainframes. The industry's niche products include domestic robots that vacuum the floor” (Gates). Expressed differently, robots, powered by the AI programmed into them, help save a huge amount of time by executing routine tasks, such as vacuuming the floor. Furthermore, robots and AI can also save time in more complex and dire situations. As Mr. Whitby proclaims, “AI can contribute to planning, logistics, communication, and decision support” (Whitby 126). Otherwise stated, AI can save humans time by helping to take the load off the human brain and do some information processing. It is a key tool and can streamline more complicated tasks. For instance, in a military situation, artificial intelligence can decide where to position the key artillery and tactical strikes so commanding officers can focus their resources and efforts on planning the actual human attack. Often, there are certain professions or undertakings that simply cannot be carried out by humans, whether they are immoral, dangerous, or downright difficult. According to Briony Rules, artificial intelligence and robots are used to complete these jobs “more cheaply, more accurately, and more reliably than humans” (Rules). By carrying out these humdrum or dangerous activities, artificial intelligence frees the humans previously required for the duties, thus saving them time and allowing them to pursue other avenues of interest. Similarly, Manali Oak says, “Robots can do certain laborious tasks. Painstaking activities, which have long been carried out by humans can be taken over by the robots. Owing to the intelligence programmed in them…they can be made to manage themselves and their time to complete the assigned tasks” (Oak). Robots, powered by AI, can manage themselves, consequently allowing the humans who previously supervised them to focus their time elsewhere. By completing everyday objectives autonomously, AI patently allows for people to make better use of their time.

The Internet, although a recent phenomenon, has billions of users. The impact artificial intelligence has on the efficiency of the Internet is virtually limitless. Information on the Internet is found primarily through the use of a search engine. Whitby puts it, “If you use a search engine on the web, you will probably be using AI technology” (Whitby 135). A search engine can be defined as a system of programs that indexes web pages and provides relevant results based on user-defined queries. Artificial intelligence plays a crucial role in the indexing process. It scans the web pages, parsing the text for keywords. It deciphers a certain amount of these keywords based on the content contained in the page. In other words, it “gets the gist” of the passage. This technology provides more reliable search results, which allows users to spend less time hunting down the information they desire. AI also is the key component of data mining. Like search engines, data mining can be employed to save users a large quantity of time. Blay Whitby states, “Data mining is a very powerful technology, but it is more often used by those in power to draw up consumer and voter profiles...AI technology enables remarkably accurate predictions to be made from such profiles” (Whitby 125). Therefore, data mining can save users quite a bit of time by generating profiles based on their information and subsequently making predictions about their interests, allowing user-relevant information to be accessed faster. Artificial intelligence and the software systems powered by it have a resounding effect on the time optimization of Internet users.

AI saves time in a multitude of fashions. It can be an extremely useful technology when used properly. Whether it’s by shortening circadian tasks, doing jobs not fit for humans, or simplifying the Internet experience, it is an undoubtedly beneficial resource to humanity.

While artificial intelligence is perfectly suited for aiding the economy and saving time, its arguably most vital purpose is preserving lives. While many technologies make communication easier or data more accessible, few can save a human life. Being such a broad and complex innovation, artificial intelligence can save lives in military, medical, and various other environments.

AI can help save the lives of animals, as is shown by a data mining system called Clementine. Blay Whitby says, “a data mining package developed by a small AI company in England, known as Clementine, enabled a large multinational toiletries manufacturer to reduce its product testing on animals by 98 percent” (Whitby 49). The data mining package, powered by artificial intelligence, uses complex algorithms to predict the outcome of certain chemical compounds to be used in the company’s products. Only chemicals deemed safe by the software must be tested on animals to further ensure their safety. Thus, AI allowed the company to stop testing its experimental chemical compounds on animals and prevented the deaths of innumerable more innocent creatures.

Artificial intelligence is also a lifesaver on the military front. It can carry out missions, defuse bombs, guide missiles, and perform a host of other actions that could potentially prevent the death of soldiers on the battlefield. Blay Whitby writes, “Its (AI's) contribution to modern military operations is largely unseen but very real” (Whitby 125). Basically, the impact of artificial intelligence on soldierly missions may not be well publicized, but it undoubtedly plays a large part in battlefield operations, thus reducing the amount of human exposure to enemy forces and correspondingly, the risk of human death. Bill Gates, now a leading proponent of modern robotics says, “the industry's niche products include…surveillance robots deployed in Iraq and Afghanistan that dispose of roadside bombs” (Gates). These reconnaissance robots use artificial intelligence to identify explosive devices and disarm them without risking the lives of soldiers on the ground. Robots have prevented the death of many soldiers and other military personnel, principally due to the AI at their core.

The arguably most vital field in which artificial intelligence saves human lives is the medical one. Alvin Benson, a leading expert on nanotechnology in medical environments says, “Future nanobots may be able to repair the human body.” (Benson 261). Increasing powerful nanobots, coupled with the emerging capabilities of artificial intelligence, could someday automatically detect problems in the human body and cure them accordingly. Benson further elaborates, “Because nanobots are being constructed to work while submerged in liquids, including blood, urine, and cell-culture media, they have many biotechnical applications” (Benson 261). Since nanobots are able to navigate through bodily fluids, they could potentially travel through the blood stream, using AI to search for problems, and cure certain diseases. They could also use the blood stream as a way to reach cancer-infected organs, and using artificial intelligence, destroy cancer-inflicted cells. This could obviously have an enormous effect of the survival rate of cancer patients and might allow for entirely new research to be made towards a cure for the disease. Benson also states, “(Because of nanobots)...surgeons may be able to probe deeper inside the human body” (Benson 261). The AI behind nanobots could help surgeons explore depths of the human body previously impossible, therefore opening the door for better diagnoses and more accurate treatments, both of which may save countless lives. As AI technology progresses, more and more medical discoveries are being made.

Artificial intelligence’s potential to save lives is essentially boundless. It is a staple in the medical and military fields. It also helps save animals by predicting the influence of chemical compounds. The effect and practicality of artificial intelligence will only increase as new discoveries are made.

AI has a long and storied history. With the advent of the personal computer in the mid to late twentieth century, it became commonplace in the developed world. Artificial intelligence is now an integral part of a complex global society. It supports a strong economy by increasing human intelligence and creating new jobs and industries. AI saves time by taking over mundane jobs and providing a better Internet experience. Finally, it prevents the needless deaths of soldiers overseas by defusing bombs, and averts certain diseases and allows for more accurate diagnoses in medical environments. The future of the Information Age is on the horizon, and artificial intelligence will be leading the charge of new technological developments.