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5-6 Persuasive Essay Draft

Artificial Intelligence (AI) - The End of Humanity?

Our society is consistently growing in automation to increase productivity and efficiency. Today, compared to ten years ago, we have seen an expediential use of artificial intelligence (AI) in many activities of our lives. There is a growing need for software engineers to help develop programs that become the basis for AI. From those that write algorithms for Google to those developing complex AI for government military programs. Unfortunately, artificial intelligence is given a bad reputation, as depicted in science fiction movies, as a force that will end all human existence. However, the development of artificial intelligence benefits society in such areas as employment, the medical field, and law enforcement by improving society's quality of life in various ways.

Artificial intelligence is a broad term used in many different ways. The Merriam-Webster dictionary states, "1: a branch of computer science dealing with the simulation of intelligent behavior in computers; and 2: the capability of a machine to imitate intelligent human behavior." [1] The Encyclopedia Britannica states, "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings." [2] Statistical Analysis System (SAS), a company specializing in "transform data into intelligence" says, "Artificial intelligence (AI) makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks." [3] Simply put, AI is a computer program imitating human behavior, aiding us in mundane tasks.

Interestingly, there are some high profiled opponents to the use of artificial intelligence. For instance, at a particular conference in 2018, several news agencies quote Elon Musk, "Mark

my words... AI is far more dangerous than nukes." In 2016, Stephen Hawking, said, "Computers can, in theory, emulate human intelligence, and exceed it . . . Success in creating effective AI, could be the biggest event in the history of our civilization. Or the worst. We just don't know. So we cannot know if we will be infinitely helped by AI, or ignored by it and side-lined, or conceivably destroyed by it."

On the other hand, others feel differently in the industry, as noted in the article published by Forbes Technology Council, "14 Ways AI Will Benefit or Harm Society" .[4] For example, Matthew Liberman, the Chief Marketing Officer at PwC, believes that AI will help aid us in the workforce and become the "new normal". Naresh Soni of Tsunami ARVR believes "intelligent assistants" will "enhance our lifestyle" by reducing mundane tasks, as well as providing better health care. Harald Quintus-Bosz, Cooper Perkins, Inc. enhances the thought on healthcare saying, ". . . AI has the potential to extend knowledge and understanding to a broader population -- e.g. image-based AI diagnoses of medical conditions could allow for a more comprehensive deployment of telemedicine." So, lets discuss these ideas more at length." Again, these are recognized, respected technology professionals who know the business of technology.

Let's take a closer look at how AI affects employment. A published report in 2109, "How Robots Changed the World" [5] by Oxford Economics, a global economic forecasting company, predicts "20 million manufacturing jobs to disappear around the world because of robotic automation." They also estimated in the U.S., "260,000 jobs have been lost to robots (around 2% of today's manufacturing workforce)". We have already seen this in the automotive industry with machines replacing humans. Customer service jobs were replaced with automated systems we have all experienced in our own lives. Just call your local cable company. After about two minutes of answering a series of questions, you get answers without speaking to a live person. A

variety of businesses are taking advantage of automated systems (AI). What are they doing about their displaced employees?

One of the benefits of AI is allowing workers to use higher-level skills. For instance, those in the automotive industry may have lost their job on the manufacturing line. However, the company may have simply moved the employee to a new position, such as a Quality Assurance Manager. Now they are responsible for a higher-level skilled job. Typically, this type of move also involves a pay increase. Therefore, the benefits to employees are a better position in the company, better pay, and the ability to make real life choices which affect the company.

Some employers are beginning to offer educational programs to help employees gain the needed skills for a new position or career. For instance, Amazon recently reported a "pledge to upskill 100,000 U.S. workers for in-demand jobs by 2025" [6] Walmart offers its employees a $1 a day education program in which an employee may enroll at a university to earn a degree in a variety of fields.

The effects of automation displacement are immediately not known due to a variety of factors. A person displaced may be relocated within the company. An employee might take advantage of an educational program changing careers after graduation while still being employed. Or someone displaced may find another job in the same field or other.

The use of artificial intelligence in the medical community has profound effects. Medical documents are electronic; therefore, they can be transmitted, studied, and reviewed by various professionals for various reasons. Just ten years ago, many medical offices only had hard copies of medical charts. A doctor relied on their own experiences and expertise in the field to develop a diagnosis of their patient. Then they recommended a plan of treatment. Some patients received a

wrong diagnosis, while others had unnecessary procedures performed. The use of AI has increased the chance of a better diagnosis and could potentially help cure diseases in the future.

For example, a paper published in the Journal of Family Medicine and Primary Care outlines various ways artificial intelligence utilizes in the medical field. The author describes how the use of CAD (computer-assisted diagnosis) helps radiologists. "AI could provide substantial aid in radiology by not only labeling abnormal exams but also by identifying quick negative exams in computed tomographies, X-rays, magnetic resonance images especially in high volume settings, and in hospitals with less available human resources." [7] Many other examples are given from educational tools for medical students, AI-therapy for patients with social anxiety, a robotic surgical systems and the various health trackers by Fitbit, Apple, etc., which are used by many of us today.

All these systems use artificial intelligence to gather all relevant information and return results from various sources to those in the medical community. In 2012, authors Jay M. Tenenbaum and Jeff Shrager wrote, "Artificial Intelligence Can Help Find a Cure for Cancer" [8] proposed how this would work. Ending the article, they say, "While AI may not be able to cure cancer any time soon, it may soon make life or death differences in outcomes for individual patients." The benefits of artificial intelligence used in the medical community are infinite.

Another area in which artificial intelligence benefits society is its use in the criminal justice system. Today, through artificial intelligence, criminal investigators are relieved of going through thousands of documents attempting to link a suspect to a crime. Instead, artificial intelligence eliminates hundreds of manual hours to collect information, processes it quickly, then sends results back to a criminal investigative team for further analysis.

Christopher Rigano, a senior computer scientist in the National Institute for Justice (NIJ) Office of Science and Technology, wrote an article highlighting key areas where AI does or has potential use in the criminal justice system. For instance, video and audio analysis play a large part during a criminal investigation. A picture can now be analyzed by AI, which compares it in various ways to other photos from other sources to find a match. In the past, criminal investigators had to spend countless hours deciphering audio and video content. Mistakes placed people in jail or prison for a crime they didn't commit. "These algorithms have the potential to match faces, identify weapons and other objects, and detect complex events such as accidents and crimes (in progress or after the fact)." 9

Criminal investigators could use artificial intelligence in DNA analysis. People convicted of a crime get released because of the review of DNA evidence. DNA analysis was an unheard-of endeavor at the beginning. However, AI can now speed up that process significantly by analyzing data too small for humans to do themselves. Rigano writes, "research shows that AI technology has the potential to assist in these complicated analyses."

Two other exciting areas where AI could assist criminal investigators are gun shoot detection and crime forecasting. Just like DNA analysis, these areas are still under development. Rigano ends the article, "AI has the potential to be a permanent part of our criminal justice ecosystem, providing investigative assistance and allowing criminal justice professionals to better maintain public safety." [9]

Artificial intelligence is already in use all around us. Just use the Google search bar in your browser. Why do those ads on websites tend to show you things you might be looking to buy? Almost anywhere at any time, we are the constant barrage of cameras capturing our every move. Aren't we a safer society? Did you know when a plane goes on auto-pilot in mid-flight, an

AI is controlling the plane? When you go through an airport, AI helps analyze fingerprinting, facial recognition, and pattern recognition. AI's are responsible for comparing an infinite amount of data.

There is still a lot of work that needs to be done and addressed during artificial intelligence development. Mistakes could happen, so we must teach AI to learn from them. AI will help benefit society in the job sector. It will create more jobs with higher wages because people will use a higher-level skill set to perform tasks. The medical community will benefit from the use of AI with the potential to cure diseases we thought were incurable. Lastly, perhaps AI will provide a little safer place for our world to live in as it analyses potential threats to humanity. As AI develops, we will have to see where it leads us. The destruction of humankind as we know it? Only in movies.

[1]"artificial intelligence" *Merriam-Webster.com*. Merriam-Webster, 2020.

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[3] SAS: Analytics, Artificial Intelligence and Data Management. https://www.sas.com .

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[4] Forbes Technology Council. "Council Post: 14 Ways AI Will Benefit Or Harm Society." *Forbes*, Forbes Magazine, 1 Mar. 2018, www.forbes.com/sites/forbestechcouncil/2018/03/01/14-ways-ai-will-benefit-or-harm-society/?sh=602008384ef0.

[5] Oxford Economics. "How Robots Changed the World:" Oxford Economics, June 2019.

[6] "Amazon Pledges to Upskill 100,000 U.S. Employees for In-Demand Jobs by 2025." *About Amazon - Press Releases*, 11 July 2019, press.aboutamazon.com/news-releases/news-release-details/amazon-pledges-upskill-100000-us-employees-demand-jobs-2025.

[7] Amisha, et al. "Overview of Artificial Intelligence in Medicine." *Journal of Family Medicine and Primary Care*, vol. 8, no. 7, 2019, p. 2328., doi:10.4103/jfmpc.jfmpc_440_19.

[8] Jay M. Tenenbaum and Jeff Shrager, "Cancer: A Computational Disease That AI Can Cure," AI Magazine, Summer 2011

[9] Christopher Rigano, "Using Artificial Intelligence to Address Criminal Justice Needs," October 8, 2018, nij.ojp.gov:

https://nij.ojp.gov/topics/articles/using-artificial-intelligence-address-criminal-justice-needs