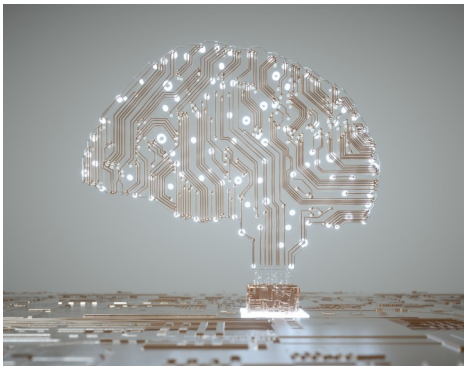
The Takeaway
Policy Briefs from the Mosbacher Institute for Trade, Economics, and Public Policy

Artificial Intelligence: A Double-edged Sword



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Even if you are not a computer scientist, you have likely recently heard the words Artificial Intelligence (AI). Companies and governments throughout the world are beginning to make use of AI tools for the effectiveness and efficiency gains they present. A full picture, however, should examine both the pros and cons of these new technologies. This brief will describe AI based tools and how they may be used by companies and governments for both positive and negative ends.

Governments and companies must make a myriad of decisions throughout the course of completing their missions and objectives. AI tools allow them to integrate and analyze large amounts of data to improve their decision-making. AI tools are used to make determinations about loan applications, to execute stock trades based on market trends, and to route packages. They are used by law enforcement for surveillance,

WHAT'S THE TAKEAWAY?

AI tools are becoming more widespread.

AI tools are used by both companies and governments for both positive and questionable ends.

Organizations should be very cautious about deploying AI tools on jobs that require professional expertise, discretionary judgement, or ethical considerations.

Government use of AI tools should be transparent and publically accountable.

the judicial system for risk assessment, finance companies to detect fraud, social media to determine your likes, and search engines to deliver the best results.

Modern AI tools can play a useful role in many such processes, particularly tools involving machine learning algorithms that are trained on some input data to learn the best pathways to accomplish some task or make some decision. Once the algorithm has been trained on the input data, it can be scaled up to work on large pools of data at super-human levels.[1] For example, a computer can be trained on a sample set of lymph node scans to detect possibly cancerous irregularities.

QUESTIONABLE USE OF AI TOOLS

However, not all tasks are suitable for automation. There are many tasks that are hard to clearly define, require judgement, or have an ethical component.[2] These types of tasks are often more complex, contain more uncertainty, and may involve access to private personal data. Companies and governments need to make careful decisions about when it is appropriate to deploy AI tools and systems to either augment or automate tasks that have typically been completed by humans.[3]

For example, governments throughout the world, including the United States, United Kingdom, and China, have been using facial recognition AI tools to identify suspects. A 2016 study by Georgetown Law found that 50% of American adults are in a law enforcement face recognition network. Sources for those photos include mugshots, passports, licenses, and social media—the faces of many people never convicted of a crime. Even more serious are the alarms raised by studies showing high rates of incorrect matches generally and the highest rates for darker-skinned people. False identifications turn innocent people into suspects and those mistakes disproportionately affect people of color.[4] We should all be concerned about facial recognition tools being put into use with little transparency or regulation and well before human rights and data privacy concerns have been adequately addressed.[5]

Another area of concern is the risk assessment AI algorithms widely in use by the US criminal justice system in setting bail and sentencing recommendations.[6] These algorithms have also been shown to be highly inaccurate and racially biased. Comparing the risk scores assigned to arrestees against their subsequent two-year arrest record, one study found that black defendants were almost twice as likely to be incorrectly labeled as high risk while white defendants were much more likely to be mislabeled as low risk.[7] These typically proprietary algorithms are not open for inspection by the public, and pose serious problems relating to due process, human rights, and discrimination. In a sticks versus carrots categorization, you might call these AI tools as very high-stakes harsh sticks.[8]

Companies, on the other hand, sometimes use AI tools as deceptive carrots—offering a positive reward, but with a hidden cost. Deceptive carrots might be free products, that on some level we understand are not completely free, but whose true costs are not transparent to consumers. For example, Facebook is free, in the sense that you do not directly pay to use it. However, your viewing habits and the personal data you reveal are a rich trove of data that can be used for advantage by AI machine

learning tools to predict what else you might click on or "like." Those predictions are then sold to companies who may use the information for targeted advertising or to attempt to influence voting behavior.[9, 10]

So, AI tools can be of great benefit, but they are also being used questionably in a great surveillance experiment by governments and major technological companies. Both the public and private sectors are using AI tools to keep a closer eye on their citizens, consumers, and the general public. AI use, therefore, has the potential to be used to invade privacy, avoid accountability, exacerbate inequality, and discriminate.

STRATEGIES FOR USING AI TOOLS MORE RESPONSIBLY AND ETHICALLY

AI tools operate in almost every industry—finance, healthcare, manufacturing, and transportation to name a few. The growth of their use in companies in the United States and throughout the world is high. In 2019, 58% of large companies surveyed reported adopting AI in at least one function or business unit, compared to 47% in 2018.[11] Leading AI experts argue that AI tools will continue to improve their execution of more complex and uncertain tasks. Over time these experts argue, we will eventually have a set of "comprehensive AI services" that will execute a range of problem-solving tasks similar to what humans can.[12] At a minimum, it seems that the current tools are very unlikely to decrease in their capabilities, but already there are concerns about the use of these tools across both the private and public sector.

Setting professional ethical standards is an important step for managing AI. The International Electrical and Electronics Engineers (IEEE) have made ethical use of AI tools created by engineers a significant priority. The IEEE's Ethically Aligned Design report highlights an ethical framework for the development of autonomous and intelligent systems that has three core pillars: human rights, data agency and political autonomy, and technical dependability.[13] These pillars are intended to guide professional engineers in their development of AI systems so that fairness, equality, accountability, privacy, and transparency are at the heart of the development of these systems.

Organizations, managers, and individuals also need frameworks for understanding when AI tools can and should be applied to the missions of their private and public organizations. Users of AI tools need to be aware of the issues and work to protect the core values underlying our liberal, democratic, market-based societies, rather than working against them.

In recent work my co-authors and I argue that as AI tools are being made available, organizations should think carefully about which tasks or sets of tasks truly do benefit from task augmentation or automation by AI tools.[14] We argue that as tasks require more professional expertise, discretionary judgement, or significant ethical value components, organizations should be much more cautious in deploying AI tools. This applies to both public and private organizations. Shifts from human labor and decisions to AI tools within a decision-making process or a task completion effort should be considered along the criteria of effectiveness, efficiency, equity, manageability, and legitimacy. In

other words, the task and decision-making context and its broader implications need to be considered carefully before the implementation of AI tools and systems.

CONCLUSION

AI tools are double-edged swords. They can be used to make human lives both better and worse. They are being used in both positive and helpful ways and in negative and harmful ways. Given the spread of these tools, their use throughout governments and companies, and their ability to closely monitor human behavior, new US federal regulations and global professional standards are needed to ensure that they are developed responsibly.

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Notes:

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