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Artificial Intelligence and Desired Impact of Innovation

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ABSTRACT: This branch of computer science is concerned with making computers behave like humans. Artificial intelligence includes game playing, expert systems, neural networks, natural language, and robotics. Currently, no computers exhibit full artificial intelligence (that is, are able to simulate human behaviour). The greatest advances have occurred in the field of games playing. The best computer chess programs are now capable of beating humans. Today, the hottest area of artificial intelligence is neural networks, which are proving successful in a number of disciplines such as voice recognition and natural-language processing. There are several programming languages that are known as AI.

KEYWORDS: - Technology, Future Impact.

I. INTRODUCTION

Artificial intelligence is drastically important to our future because AI forms the very foundation of computer learning. Through AI, computers have the ability to harness massive amounts of data and use their learned intelligence to make optimal decisions and discoveries in fractions of the time that it would take humans. Artificial intelligence is becoming responsible for everything from medical breakthroughs in cancer research to cutting-edge climate change research. The Future of AI: How Artificial Intelligence Will Change the World. Is AI really the world's greatest future technology? . The technological advancements that have taken place within the last few years have been a great example of how AI will impact many different fields. Within the last few years, AI has been seen as an important field in its own right, and some industries have emerged as early leaders in AI. A few examples of these industries include: healthcare, automotive, and aerospace. With the advancements in AI, it is important to understand how different fields within the field of AI could impact innovation. Artificial intelligence is changing the way humans work. One of the fields within AI is known as business analytics. The goal of business analytics is to take an organization's data and use it to make better business decisions. Business analytics is a relatively new field, but it is one that is quickly growing. This field will continue to grow, and some of the industries that will be impacted the most are innovation, marketing, engineering, and operations.

The impact that these different fields will have on innovation is because they will help to streamline processes and make the economy more efficient. The fields of Artificial Intelligence can be difficult to keep track of and many of them have not been explored yet. The industries, platforms and applications that Artificial Intelligence can impact all have different impacts. For example, Artificial Intelligence will have an impact on healthcare by improving the accuracy of diagnoses, helping doctors make better choices, and improving the quality and efficiency of healthcare. In the field of autonomous vehicles, Artificial Intelligence will impact the industry by enabling cars to drive more safely and efficiently with the help of large data sets and by improving driverless car technology. Artificial intelligence can be applied across any field.

II. HOW ARTIFICIAL INTELLIGENCE WILL CHANGE THE FUTURE

Artificial intelligence is impacting the future of virtually every industry and every human being. Artificial intelligence has acted as the main driver of emerging technologies like big data, robotics and IoT, and it will continue to act as a technological innovator for the foreseeable future.

Employing machine learning and computer vision for detection and classification of various "safety events," the shoebox-sized device doesn't see all, but it sees plenty. Like which way the driver is looking as he operates the vehicle,

how fast he's driving, where he's driving, locations of the people around him and how other forklift operators are manoeuvring their vehicles

III. WILL AI TAKE OVER THE WORLD?

AI is projected to have a lasting impact on just about every industry imaginable. We're already seeing artificial intelligence in our smart devices, cars, healthcare system and favorite apps, and we'll continue to see its influence permeate deeper into many other industries for the foreseeable future. There's virtually no major industry modern AI — more specifically, “narrow AI,” which performs objective functions using data-trained models and often falls into the categories of deep learning or machine learning — hasn't already affected. That's especially true in the past few years, as data collection and analysis has ramped up considerably thanks to robust IoT connectivity, the proliferation of connected devices and ever-speedier computer processing.

Some sectors are at the start of their AI journey, others are veteran travelers. Both have a long way to go. Regardless, the impact artificial intelligence is having on our present day lives is hard to ignore:

- **Transportation:** Although it could take a decade or more to perfect them, autonomous cars will one day ferry us from place to place.
- **Manufacturing:** AI powered robots work alongside humans to perform a limited range of tasks like assembly and stacking, and predictive analysis sensors keep equipment running smoothly.
- **Healthcare:** In the comparatively AI-nascent field of healthcare, diseases are more quickly and accurately diagnosed, drug discovery is sped up and streamlined, virtual nursing assistants monitor patients and big data analysis helps to create a more personalized patient experience.
- **Education:** Textbooks are digitized with the help of AI, early-stage virtual tutors assist human instructors and facial analysis gauges the emotions of students to help determine who's struggling or bored and better tailor the experience to their individual needs.
- **Media:** Journalism is harnessing AI, too, and will continue to benefit from it. Bloomberg uses Cyborg technology to help make quick sense of complex financial reports. The Associated Press employs the natural language abilities of Automated Insights to produce 3,700 earning reports stories per year — nearly four times more than in the recent past.
- **Customer Service:** Last but hardly least, Google is working on an AI assistant that can place human-like calls to make appointments at, say, your neighborhood hair salon. In addition to words, the system understands context and nuance.

But those advances (and numerous others, including this crop of new ones) are only the beginning; there's much more to come — more than anyone, even the most prescient prognosticators, can fathom.

IV. WHY IS ARTIFICIAL INTELLIGENCE IMPORTANT?

Artificial intelligence is drastically important to our future because AI forms the very foundation of computer learning. Through AI, computers have the ability to harness massive amounts of data and use their learned intelligence to make optimal decisions and discoveries in fractions of the time that it would take humans. Artificial intelligence is becoming responsible for everything from medical breakthroughs in cancer research to cutting-edge climate change research.

Google CEO Sundar Pichai On Stage in 2018. Google is working on an AI Assistant that can place human-like calls to make appointments. |

AI'S IMPACT ON THE WORKFORCE

During a lecture last fall at Northwestern University, AI guru Kai-Fu Lee championed AI technology and its forthcoming impact while also noting its side effects and limitations. Of the former, he warned:

“The bottom 90 percent, especially the bottom 50 percent of the world in terms of income or education, will be badly hurt with job displacement...The simple question to ask is, ‘How routine is a job?’ And that is how likely [it is] a job will be replaced by AI, because AI can, within the routine task, learn to optimize itself. And the more quantitative, the more objective the job is—separating things into bins, washing dishes, picking fruits and answering customer service calls—those are very much scripted tasks that are repetitive and routine in nature. In the matter of five, 10 or 15 years, they will be displaced by AI.” In the warehouses of online giant and AI powerhouse Amazon, which buzz with more than 100,000 robots, picking and packing functions are still performed by humans — but that will change.

Robots at work welding in a car factory. Experts Believe AI will replace many jobs that are repetitive and single-task oriented. | Photo Credit: Shutterstock

RETRAIN & EDUCATE: EASING THE GROWING PAINS OF AN AI-POWERED WORKFORCE

AI is useless in two significant ways: it has no creativity and no capacity for compassion or love. Rather, it's "a tool to amplify human creativity." Those with jobs that involve repetitive or routine tasks must learn new skills so as not to be left by the wayside. Amazon even offers its employees money to train for jobs at other companies.

"One of the absolute prerequisites for AI to be successful in many [areas] is that we invest tremendously in education to retrain people for new jobs," In the future, if you don't know coding, you don't know programming, it's only going to get more difficult."

V. CONCLUSION

REWARDS & PUNISHMENT: AI'S NEAR-FUTURE RAMIFICATIONS

AI research and experimentation that will have near-future ramifications is happening in two areas: "reinforcement" learning, which deals in rewards and punishment rather than labeled data; and generative adversarial networks (GAN for short) that allow computer algorithms to create rather than merely assess by pitting two nets against each other. The former is exemplified by the Go-playing prowess of Google DeepMind's Alpha Go Zero, the latter by original image or audio generation that's based on learning about a certain subject like celebrities or a particular type of music.

On a far grander scale, AI is poised to have a major effect on sustainability, climate change and environmental issues. Ideally and partly through the use of sophisticated sensors, cities will become less congested, less polluted and generally more livable. Inroads are already being made.

"Once you predict something, you can prescribe certain policies and rules," Such as sensors on cars that send data about traffic conditions could predict potential problems and optimize the flow of cars. "This is not yet perfected by any means," she says. "It's just in its infancy. But years down the road, it will play a really big role."

AI AND THE FUTURE OF PRIVACY & HUMAN RIGHTS

Of course, much has been made of the fact that AI's reliance on big data is already impacting privacy in a major way. Look no further than Cambridge Analytica's Facebook shenanigans or Amazon's Alexa eavesdropping, two among many examples of tech gone wild. Without proper regulations and self-imposed limitations, critics argue, the situation will get even worse. In 2015, Apple CEO Tim Cook derided competitors Google and Facebook (surprise!) for greed-driven data mining.

They're gobbling up everything they can learn about you and trying to monetize it,

Advancing AI by collecting huge personal profiles is laziness, not efficiency. For artificial intelligence to be truly smart, it must respect human values, including privacy. If we get this wrong, the dangers are profound.

"If implemented responsibly, AI can benefit society. However, as is the case with most emerging technology, there is a real risk that commercial and state use has a detrimental impact on human rights."

Plenty of others agree.

"If implemented responsibly, AI can benefit society," the authors write. "However, as is the case with most emerging technology, there is a real risk that commercial and state use has a detrimental impact on human rights. In particular, applications of these technologies frequently rely on the generation, collection, processing, and sharing of large amounts of data, both about individual and collective behavior. This data can be used to profile individuals and predict future behavior. While some of these uses, like spam filters or suggested items for online shopping, may seem benign, others can have more serious repercussions and may even pose unprecedented threats to the right to privacy and the right to freedom of expression and information ('freedom of expression'). The use of AI can also impact the exercise of a number of other rights, including the right to an effective remedy, the right to a fair trial, and the right to freedom from discrimination." "There are still major breakthroughs that have to happen before we reach anything that resembles human-level AI," Russell explained. "One example is the ability to really understand the content of language so we can translate between languages using machines... When humans do machine translation, they understand the content and then express it. And right now machines are not very good at understanding the content of language. If that goal is reached, we would have systems that could then read and understand everything the human race has ever written, and this is something that a human being can't do... Once we have that capability, you could then query all of human knowledge and it would be able to synthesize and integrate and answer questions that no human being has ever been able to answer because they haven't read and been able to put together and join the dots between things that have remained separate throughout history."



More than a few leading AI figures subscribe (some more hyperbolically than others) to a nightmare scenario that involves what's known as "singularity," whereby superintelligent machines take over and permanently alter human existence through enslavement or eradication.

The late theoretical physicist Stephen Hawking famously postulated that if AI itself begins designing better AI than human programmers, the result could be "machines whose intelligence exceeds ours by more than ours exceeds that of snails." Elon Musk believes and has for years warned that AGI is humanity's biggest existential threat. Efforts to bring it about, he has said, are like "summoning the demon." He has even expressed concern that his pal, Google co-founder and Alphabet CEO Larry Page, could accidentally shepherd something "evil" into existence despite his best intentions. Say, for example, "a fleet of artificial intelligence-enhanced robots capable of destroying mankind." (Musk, you might know, has a flair for the dramatic.) Even IFM's Gyongyosi, no alarmist when it comes to AI predictions, rules nothing out. At some point, he says, humans will no longer need to train systems; they'll learn and evolve on their own.

"Currently, computers can handle a little more than 10,000 words. "So, a few million neurons. But human brains have billions of neurons that are connected in a very intriguing and complex way, and the current state-of-the-art [technology] is just straightforward connections following very easy patterns. So going from a few million neurons to billions of neurons with current hardware and software technologies cause we can doesn't mean we should.

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