

Artificial Intelligence and Internet of Things in Diagnostic, Therapeutic, Operations and Data Analysis - Advantages and Disadvantages

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Abstract: *This piece of write up alludes Artificial intelligence and Internet of things in the ongoing era and its opening as an overarching principle in the entire medical and healthcare sector. It is inevitably obvious that use of AI and Internet Web is a drastic breakthrough in the entire medical sector and has provided equally same cynical approach as that of the optimistic one. It always becomes confusing when we want to jot down our bare minimum requirement of a day that is "Artificial Intelligence" and "Internet of things". These things are though mere creations but hold more power than the creator. Nobody can imagine a day without the Internet. Writing about it is finding letters from the web of vocabulary that is pretty much the same as that of the jurisdiction of cyber space. Uncertain yet full of opportunities to explore and make the usage of the same to maximize good and welfare. Observing the usage of AI and IoT in the medical and healthcare sector is the best and the most optimistic approach of looking at the development of AI and IoT in the ongoing generation. This article will briefly state all the advancing technologies in the diagnostic, therapeutic, operative departments of medical science and data analysis of the healthcare sectors.*

Keywords: Artificial intelligence, Internet of Things, ABG machine, Laser treatment, RT PCR

1. Introduction

We are for sure here to lift the veil of all the impacts of AI and IoT in the medical and healthcare sector let that be a optimistic one or cynical and its pretty evident that all great things have their own kind of shadows but it's for the best for us to focus on the bright aspect because no one lights a lamp to keep it behind the door, a lamp is lit to create more light. And humankind invented and introduced Technology into lives of people to help us make this world a better place to live in.

The entire system of health care if seen from a bird eyes view is driven by Artificial Intelligence and Internet of things. People are rescued from death through technical methodologies while few succumb to it in the process.

How easily we over hear the term 'ABG Machine' when we walk through the rooms of a hospital having chaos and human suffering spilled all over on the marbles of the floor, in the form of tears, in the form of prayers and in the form of hope. Hope for a life to be saved that lies in the hands of the doctor who relies and counts upon the artificial methodologies that needs to be handled with caution by his wisdom and knowledge.

ABG machine stands for Arterial Blood gas machine and helps in determining the partial oxygen and carbon-dioxide level. It also enables us to know the PH value of the blood. It helps us to determine the electrolytes and metabolites such as sodium, potassium and chloride. It can also detect the Lactate level of the individual as well as Haemoglobin and Keratanin Urea level and is drawn from the artery of the patient.

This sample transport technology is fast and convenient. And all the credit goes to intelligent scheduling software as each sample is individually registered and dealt with according to gravity of the situation of the patient, ensuring

that the urgent samples take precedence over those for routine checkups. And that itself is a saviour of mankind. The lives of human race can be saved and cured by this magnificent invention in the world of Artificial Intelligence. And though we had another side to this invention but such an optimistic and drastic approach cannot go unnoticed.

If we look into the drawbacks of the technology we'll find that there exists error in ABG cards that result in invalid results which just adheres to extra expenses of the patient with no beneficial outcome. If there is failure in the injection of sample due to any negligence of technical error, the results may be altered or hampered. The very negative approach can add up to the negativity of a patient's condition and might just end up being fatal due to incorrect treatment procedures followed relying on the outcomes of an artificial intelligence's creation. Given a thought the AI and Internet of Things holds the same power that of giving life as that it holds of taking it away.

RT PCR- Reverse Transcription Polymerase Chain Reaction.

2020 has been difficult and troublesome around the globe due to the outbreak of the novel corona virus which is a respiratory viral disease with no cure that can be fatal if not treated symptomatically in time. Due to the lack of knowledge of possession of the disease there was a delay in treatment that ended up in a disastrous outcome of death of thousands of people and it is 2021, a year later of the outbreak of SARS-COV 19 but we're still amidst the pandemic.

RT-PCR was one of the most relied upon instrument to detect the positive cases and cure them. Detection of infection by RT-PCR in clinical examples offers the alternative of conclusion in the beginning periods of the ailment & its application incorporates genotyping, mutation detection. RT-PCR techniques show much better

affectability after day 6 of the ailment. RT-PCR technique is found to be a standard method for diagnosing the positive cases. This was a breakthrough in finding true negativity and rule out the serological positive cases. As we all witnessed the mental agony faced by human kind due to the lockdowns imposed. The quarantine prescribed for positive cases as per the protocol resulted in death of hundreds of people cold and alone in hospital rooms suffocated on their thoughts of isolation.

As RT-PCR was the only relied upon Artificial intelligence in the pandemic, even one cynical approach of the same decided the fate of the person affected by SARS-COV 19. The indications of the beginning periods of the infection are vague. The accuracy being less in the initial stage created a fear among people of being isolated even if they had a false positive is how they ended up avoiding health care sectors at the first place. This is how there were more non-registered cases followed by widening of the contamination over a large stretch of population. Though we have a major breakthrough to look at that is the detection of possession of the deadly Novel Corona virus, the fact that the false results which were followed by self-isolation devastated the mental state of Human kind, cannot be underappreciated as well. Where AI provided us a way to overcome and survive the disease physically, it took our stable mental state of mind away. And till date, we are still trying to recover from the turbulence of mental health caused due to the outbreak of SARS-COV 19.

The above stated AI are few examples of advancement in Diagnostic sector attached with its drawbacks. Because rainbows cannot be created without a little rain and inventions can't be perfect in this overwhelming changing world.

Coming onto the therapeutic sector of medical and health care, one of the best creations of AI is Non-Invasive Ventilators. This creation was a life saviour in the Pandemic and was the most used equipment in the hospitals as well. As the SARS-COV 19 was a pulmonary respiratory disease, it affected the inhaling and exhaling process of people. Non-invasive ventilators helped by providing supply of direct oxygen which rescued people from critical conditions. As we were amidst the pandemic, the numbers of people affected were more than the available resources. Patients' airway patency is partially recovered and thus cut in the supply of oxygen can be fatal. This created a political environment in medical and health care sector to extort capital. People were charged way more than the original price of the Ventilators and lives were being traded. And as this is applicable only on a narrower range of people, it does not provide the assurance of Survival. No doubt AI is a boon to humankind but when it is dealt by the malafide minds, it is no less than a threat.

Moving forward to the Operative sector of Health care. One of the most important and very fragile sectors that places the lives of patient's life on the palm of doctor who are leaned on by the Artificial Intelligence and its advancement. Present day, operation theatres are called theatres because earlier people used to buy tickets for watching mankind help mankind in rescuing death. One of the simplest operations

carried out by the hospitals are laser treatments. They are commonly used to shrink tumours, remove kidney stones, improve vision, relieve symptoms of cancer and even helps in early stages of cervical cancer; penile cancer, vulvar cancer and the list of benefits go on. Where in certain fatal condition, Laser treatment is a game changer, it has its share of adverse effects as well. It may leave scar marks and there is room for chance of any failure it may result in Deep Vein Thrombosis. Artificial Intelligence itself is a blessing in disguise. When dealt with caution, it may provide productive results or may create more add-on to the existing unfavourable conditions of the patient. It all lies on the application of the Artificial Intelligence.

Data Analysis is one of the paramount of Internet of things. It was introduced to minimise the distance between things. The very first statement that we think of when we come across the word 'Internet' is concealing the entire world into a digital space beyond travel and time. TeleMedicine is the utmost beneficial invention of Internet in the world of Medical and healthcare sector. It is used to make medications accessible to the people all over the world in critical and emergency conditions. It provides service to all irrespective of their mobility conditions. When we look on the constructive outcome, it helps in the easy accessibility to health care but coming onto the destructive outcome of internet we find that this has made physical examination of the patient's condition negligent. No signs and symptoms are recognised beyond the data provided by an individual's prescription which results in failure of routine checkups. This can result in the adverse alteration of the physical state of a person that is caused due to intoxication, continuance or withdrawal of certain drugs without any recommendation.

2. Conclusion

Stitching up all the considerable, appreciable and constructive outcomes of Artificial Intelligence and Internet of things, we find equal cynical and destructive approaches in every discovery or invention of the same. Thus, it can be summed up that it's always dark right underneath a lamp. And AI (Artificial Intelligence) and IOT (Internet of things) resembles the lamp which creates a shimmering ray of light and hope in the Revolution of mankind but also may be inflammable to the entire race when not handled with care. And irrespective of all luminous products, it still has its own shadows. Artificial Intelligence and Internet of things are mere creations of humankind and this should not be overlooked in any condition. And though we should always keep trying to come up with advancement in technology, we definitely shouldn't let the creation overpower the creator. We should always make sure that the Mankind holds more power and control over its own creations. Technology was discovered to serve Mankind and in order for its purpose to be fulfilled, we have to make sure to hold full power and control to monitor it, let that be in medical and health sector or any other sector order so that we add onto creating a better world to live in.