Artificial Intelligence might hold a universal solution for cancer

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The sky is the limit when it comes to technological advancements that a human brain is capable of. Time and again, researchers, scientists, and others have come up with tools, process, and technologies that have benefitted and brought about ease of convenience for mankind in various fields. But there always appears to be room for more, especially in medical science where the list of diseases seems endless demanding for endless and innovative solutions constantly. Artificial Intelligence (AI) has been one such development that has captivated human imagination and curiosity quite some time and is even being applied now in different spectrums.

AI basically refers to machines that are programmed to mimic human reasoning with the aim to provide the best recommendations and error-free performance in any specific subject. AI is known to be able to process vast and complicated information in a short span of time and with appropriate guidance, and even go beyond the capabilities of a human mind and our naked eye hence ensuring more proficiency.

AI has already become an integral part of our everyday lives especially in our interactions with media, communication and even transportation. There is a keen interest in applying AI in healthcare facilities as well to receive improved diagnosis and management of the diseases as well as to develop effective therapies. While machine learning (AI's subset) can be seen benefitting in diagnosis as well as treatment, this is only the tip of an iceberg with an immense scope awaiting to be rightly utilized. Machine learning picks out the change in the tissue as a signal and uses it to discern if the tissue being imaged is cancerous or not.

The usage of AI that is the most looked up to is in dealing with cancer, given the complexity, anxiety, and uncertainty that surrounds this disease. With the ability to analyze data, AI has the potential to revolutionize diagnosis for cancer universally. The key to successful cancer treatment is in catching it early. There have been many instances when either the cancer is misdiagnosed or miss during the diagnostic process which escalates the concerns all the more. Hence, the correct diagnosis, reliable

detection of whether a lesion is malignant or benign, and presenting the treatment is the hope with AI. It is also expected to be less invasive and traumatic for the patient as well as aid in speeding up diagnosis and treatment.

Constant research and experimentation are going on to tap on using AI for cancer even for the rare and complex ones. The scientific breakthroughs and technical advancements specifically in genetics and medical imaging and paving way for diagnosis of cancer at an earlier stage with AI.

Some of the features/highlights of AI in cancer diagnosis include:

·   One of the most effective methods for the societal impacts of AI has been image analysis owing to the availability of large amount of digital imaging data within medicine. The digitized images are aimed to assist in medical proceedings ranging from diagnosis to outcome prediction.

·   Taking into account the constructive application of the AI techniques in the field of computer vision, another field that can benefit from these techniques is AI where digitized images are plenty.

·   Some researchers have established the algorithms of AI to be effective in channelizing cancer detection as well as screening.

·   Detection of radiographic anatomic features of malignancies have also been rendered more reliable through AI.

·   The least error possibility with AI is likely to ensure early detection, hence easing treatment and thereby enhancing the effectiveness of the present screening, say some researchers.

While most of the medical professionals wait for the day when AI can be trusted especially for diseases like cancer and significantly improve diagnosis and treatment, some disagree with the belief of AI replacing a trained human operator ever. Since cancer is so wide, complex and exists as different types, an algorithm that needs to be developed must be such which can handle a range of problems. This in itself is quite a daunting task.

Some of the concerns that come along with AI are:

·   The issue of trust is one of the biggest hurdles that AI faces. The lack of trust among doctors as well as patients is still a long stretch to be covered.

·   Some experts are also concerned that AI should not emerge as a standalone solution for diagnosis or treatment without any supervision.

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