**Assignment 6 AI application in Health and Medicine**

Artificial intelligence has now come to multiple aspects in the world, both in the social science and the natural science. At the same time, health care and medicine are now one of the major concerns the citizens concerned and looking forward to having a development in it. Therefore, need for Artificial Intelligence’s implementation is now one of the popular trends in the advanced technology. So far, Artificial intelligence’s implementation have covered in the aspect like death risk notation improvement, Gestational Diabetes’ test advancement and Powered Precision Medicine.

One of the major problems for the health science today is that the risk of the death is always unpredictable and therefore the urgent attention is not always given on time. However, with the recent Geisinger’s AI system (2019), the death risk can be dramatically lowered by the Deep Learning implementation on CT scan to the patients. According Geisinger (2019), they atrial fibrillation (AF) system can use deep neural networks to predict irregular heart rhythms and at the same time, the AI’s deep learning algorithm can drop the labor of radiologist’s CT scans from 9 hours to just 19 minutes. It can help to shrink the time from feedback to reaction by rushing to send the risk notation and medication directly to the emergency department. By Geisinger’s AI systems participate in the health care aspects, the risk of not on-time emergency care can be dramatically dropped.

Another major problem for the health science is that the massive test on Gestational Diabetes. Since every pregnancy woman may need a diabetes test for healthy of their babies and considering the lifestyle interventions for their blood sugar, the need for the gestational diabetes actually are pretty massive and always occupy many medical resources. According to PTI (2020), the AI implementation is “analyzed data on nearly 6,00,000 pregnancies available on from Israel’s largest health organization, Clalit Health Services”(para.2). The AI algorithm could provide a cheaper way for identify if the women at high risk of gestational diabetes early in their pregnancies between 24th and 28th weeks of pregnancy. While this AI algorithm was implemented, the doctors can “tell in advance whether a prospective mother is at a high risk of developing” (PTI, 2020, para.13). Currently, they are not implemented this AI algorithm in the real-world due to the variety of sample analysis and now working on accessed the health records of an additional 1,40,000 pregnancies that had not been part of the initial analysis.

In medical area, AI implementation can also help Precision Medicine industry. According to Hema(n.a.) and defined by National Institute of Health, Precision medicine is “an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle”. (para.1) In the other word, it is an approach to make medical treatment by patients’ particular situation. Here AI’s implementation can reduce adverse drug reaction by deep learning patient DNA. At the same time, it can give a more accurate diagnosis and improve outcomes via better-tailored treatment plans through data from patient medical record and individual variations in tumors and data used to diagnose diseases. This implementation helps to reduce the cost of Precision Medicine as well as make the decision doctors made more accuracy. Currently, it is working on using Thyroid Detection in Ultrasound, Tumor detection in large medical images and Disease Risk Prediction.

While the future for the AI’s implementation in health care and medicine is brilliant, no strategies are now fully into real-life use but rather than a limited exploration or find more analysis to support. This fact is caused by the high responsibility for human life and also the higher price for the research and algorithm development. It may still need to take times when Ai’s implementation can be seen in the public.

**References**

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