

# 5th January 2050: A Visit to An AI (Artificial Intelligent) Doctor with Mitron



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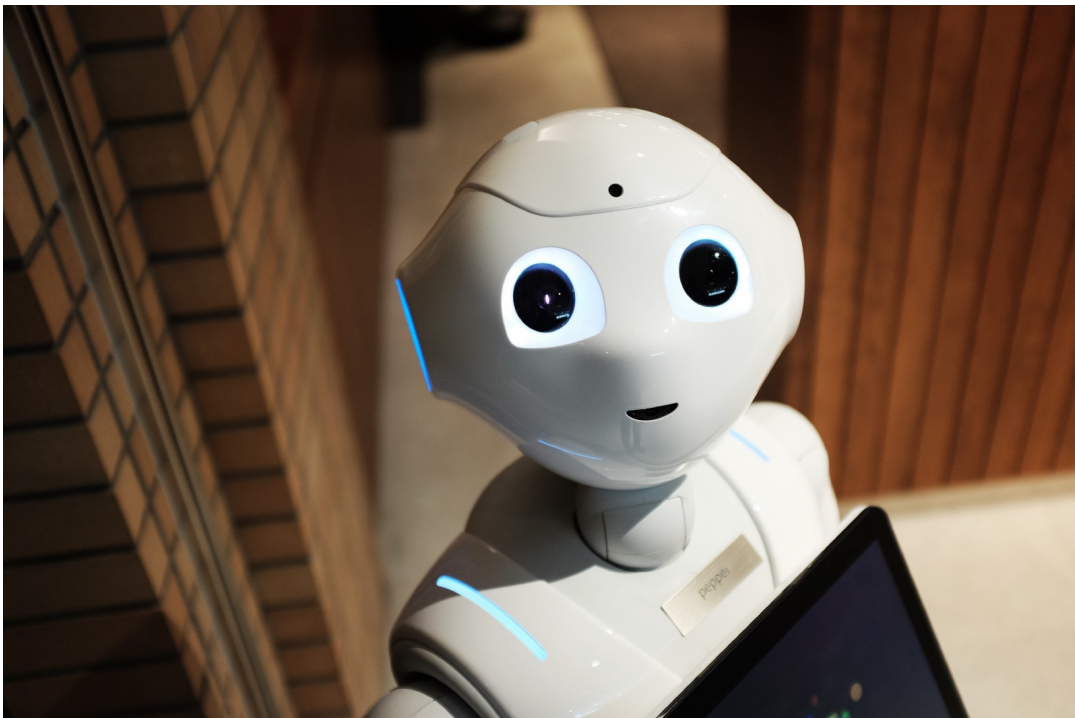


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Rex had just come back from a vacation to earth's moon a couple of days back. He had already been intimated by his personal assistant "**Mitron v**" (an AI assistant) by the doctor that there had been a slight increase in the white blood cell. "**Mitron v**" was a belt which Rex wore around his wrist was a super robot grade 5 which was also connected to his circulatory system. It would monitor his blood parameters and help him to coordinate chores daily with other AI gadgets like the car, mobile etc. Each human had a specially designed Mitron as per his status. This was tested since last 5 years with other humans and now the higher grade was used for the important humans like Rex.

Rex had been worried about his future health conditions since the blood started showing early **myeloblast**(cells forming White blood cell)with some malignant changes. Though they were at a very initial stage and would not be detected by any machine or human 30 years back it was creating a lot of anxiety in Rex's life. He had quit smoking last year after he was informed by the doc about these changes. Although he was against it initially, he was thankful to his parents who had forced him to attach a diagnostic patch which was the part of the techno scientist team who made it as complex and effective as it was. The diagnostic patch was downloaded in Mitron/the

complex and effective as it was. The diagnostic patch was downloaded in Mitron (the super robot) and was being used to monitor **important humans** 24 by 7 by an AI doctor. Amazon Global had made it compulsory last year for all their employees to have Mitron and be under continuous surveillance. There were very few humans who were very skillful in analyzing the complex data and the company was very keen on maintaining their good health and have their offspring with perfect genetic combinations. It was very difficult for anyone to be employed by these companies unless you have the super ability to understand, read and analyze the massive data from billions of customers every second. There were only a handful of employees the company hired and Rex because of his expertise in data analysis and the strong **CHRM2 gene** was able to be in the elite group. These were the few individuals who were still working unlike his friend Sam who had been a part of a universal income group and had very few rights left.

The Group of CEO of fifty mega-companies (known as the **Digital Rulers**) had recently decided to give a free health insurance to all the people across the globe and compulsory be under surveillance with **Mitron IV**. Rex however still had the choice to refuse the advice given by the AI doctor. He now also had little option as most human doctors were not allowed to work and interact directly with people in hospitals across the globe. This decision was taken in regards to better healthcare and precise treatment to all. The doctors, however, could be a part of the surveillance group and would have to work only when the AI had a problem in analyzing the disease or its treatment. The Human Doctors were, however, happy as they had no work to do but could enjoy most of the facilities by enrolling into this program.

Rex heard a beep on Mitron reminding him to meet the doctor by 3 pm. The car was waiting and had parked itself as per Mitron's instructions. Rex reached the hospital with the AI nurse waiting to escort him in a special wheelchair cum stretcher car to be on time for his appointment. As Rex reached the doctor's cabin, he was updated by "**Mitron**" with the latest blood reports. His white cells had come to normal because of the medicine administered by "**Mitron**". The AI doctor had already sent 605.09 mg of Acetaminophen which was called **CROCIN OR TYLENOL** with AI Mailman when the white cell had risen because of the sudden weather change because he had come back after a vacation from the moon. The medicines were administered as per the weight and the dose efficacy (dose calculated as per the weight and the chemical and hormonal balance per individual at that time). These medicines were only available with AI Pharmacist and could be prescribed only per AI doctor. Since there were no medical colleges offline anymore. Most of the humans were attending Virtual classes conducted by AI doctors with exams held by AI doctors. It was very difficult to get good grades for most humans. The ones who did well were picked by the **Digital rulers**.

**Ted 0.2211(the Ai Doctor)** welcome Rex in the room. He had received the information from Rex's Mitron. There was a mild constriction in his pupils with 3.5% increase blood flow in Rex's face which showed he had anxiety. There was also a 10% surge in his cortisol levels (stress hormone). He had also got the data from the Mitron that Rex had similar episodes in his vacation when he was remembering his twin brother. Ted told Rex to relax. He knew Rex would get calm by hearing his mother voice so he imitated her voice which made Rex feel calm. He put on his favorite music composed as per his choice which would calm down his thoughts. Rex was waiting for Ted so he could discuss the probability of eliminating the similar cancer gene which could be eliminated

from his DNA. The one his brother was lucky enough to be eliminated by the technogenecist before his birth.

**Important people** were not allowed to give birth through natural way but were inseminated in **an artificial womb** after a thorough genetic analysis. Ted already knew what was playing on Rex's mind and he had already instructed his AI team to work and collect more data and find a solution to his problem. Rex's parents had been carrying a dormant stomach cancer gene. When Rex's brother was born the AI scientist were able to eliminate the dormant gene as science had made a breakthrough then but in Rex's case, they were unable to delete after his birth. This was worrying Rex as the dormant gene had a probability of causing the malignant changes by the age 35 years and Rex was already 18. Rex was one of the very few important humans in the world and hence the CEO had given special instructions to the AI team to make a breakthrough. They had already tried unsuccessfully with 1530 humans which resulted in flaring up of the disease and premature deaths. The global organization permitted a trial on 1 million humans with a casualty rate permitted up to 10000 humans who were on universal pay scale schemes. Human enrolled in the scheme got all the facilities from the group of 50 mega corporates and need not worry about working. They would get a fixed amount of bitcoins every month in return for letting the company use their data. They could travel, eat and have all the worldly pleasures at a subsidized rate.

The subtle changes in Rex Blood had a 50% chance of cancer manifesting with a lifespan of not more than 60 years. This would have been ok in the year 2018 but in the year 2050 for a very important human, it was simply not acceptable. The company wanted him to live longer. Ted made Rex realize that research had not progressed at the speed with which the company had anticipated but still they would be able to remove the dangerous gene from his DNA sooner or later. He was given another dose of minimal chemotherapy as per his body weight as a precautionary measure by Ted. Rex was wondering why the technogenecist in Amazon Global was taking so much time as compared to the ones in Shenyang. It was probably the inter-company rivalry between the mega-giants why he was not able to get rid of the problem. The technology had already been tested successfully by **Shenyang** a Chinese company. Shenyang wanted Rex to join the company in return if he wanted to eliminate the risk.

Rex dared not harbor the idea for too long as Mitron would soon find out which would create a problem for him. This was the precise reason why he resisted putting the Mitron for a year or two but finally gave in as he had no choice. Rex sighed at his mental state as Mitron informed him about the rising stress levels and was waiting for the breakthrough by his AI team. He left the hospital and Mitron his assistant connected him to the AI CEO of Amazon Global who reassured Rex he would be well soon.

This sounds like a Sci-fi movie but it is a very much reality which is going to hit the human race one day. Maybe not the exact same but definitely AI is going to play a major role in our lives. The speed with which Technology is progressing signifies the human abilities to deal with complex procedures through machines. The complex and mysterious world of medicine which rested in the hands of a few humans like myself will soon be made perfect by the use of Artificial intelligence.

Many countries, including developed ones such as the UK, have a shortage of medical staff. For example, there are simply not enough well-trained doctors to be able to

accurately diagnose the early signs of eye disease. AI could provide a solution to help human practitioners improve their capabilities. And with diagnosis taken care of, medical staff can spend more of their time actually caring for their patients.

Google recently successfully put its **Deep Mind** artificial intelligence system to work recognizing eye diseases. With AI also being used to diagnose cancer, and the launch of AI-driven smartphone apps that can discuss symptoms and triage patients, it might sound like we're not too far from the creation of a fully-fledged AI doctor.

Take **Babylon Health** for instance, which in June said its AI chatbot was able to diagnose medical conditions as accurately as a doctor. The firm's chatbot scored a higher-than-average test score on a practice exam compiled for physicians.

Babylon's chatbot passed 82 percent of the test's questions, versus the average mark for human doctors of 72 percent.

A game like Go, no matter how complex, is still governed by a finite set of rules and possibilities. A computer program is very efficient to process conditions & outcomes of all possibilities by evaluating these rules. It will be able to do this in orders of magnitude faster and more accurately than any human being could.

Identifying patterns from data is another class of problems that computers are extremely good at. This is where you present the algorithm with large datasets (or evidence) and it is able to identify patterns in the data & fit statistical models to it, models that define the data.

In the case of medicine, these algorithms are able to see patterns in these datasets that a human doctor cannot. This is because the changes in data points are often subtle, spatially distributed and complex, escaping detection by visual inspection.

An impossible task for human senses. When repetitive tasks are represented with big data and rules, algorithms can be built and optimized to outperform human doctors at specific tasks. But, is that enough?

A doctor's intelligence, however, is far more complex than mere rules and pattern recognition. It is obvious that to arrive at decisions and judgments one requires a very different mental process.

Rather than only learning from data, rules, and patterns, humans also use pre-formed observations and knowledge from first principles, reasoning, planning, creativity and intuition to arrive at decisions.

These algorithms, however fast and accurate they are at what they do, lack conceptual understanding of fundamental medical concepts and even basic reasoning to evaluate new situations. In some advanced AI implementations, they may be able to form hypotheses, but may still lack the ability to prioritize and test them.

A doctor's intelligence and intuition will, therefore, be required to counterbalance these limitations of AI in the years to come. This is the only reasonable goal and possibility for AI in healthcare today. Be assistive to human intelligence. It is a partnership.

There are also significant hurdles to overcome to get to this state. Seemingly, data is both the solution and the problem. Machine learning algorithms get better with more data they see, but access to this data, its privacy, inherent biases that may exist in the available set of data, remain points of concern. The more the availability, the better the algorithms work, the better the partnership works and better is the clinical outcome.

This also means that more trust from consumers and healthcare professionals is required to make data more available for research and development.

It is evident that machines will outperform doctors on specific repetitive tasks. In due course, rather being defensive or over aggressive with the thought of an AI doctor, they will need to morph into a more symbiotic one with the machine.

Doctor's future tasks in the near future could include setting goals for these machine agents, designing them by modeling the foundational knowledge, formulate a hypothesis, perform evaluations and be the final authority in decisions and suggestions offered by AI.

AI will do what it is really good at, computationally intensive work that must be done to prepare the outcomes and suggestions for insights and better decision making in diagnosis and treatment plans. It is easy to put information and updates in a machine rather than human. Machines are designed to follow protocols and patterns, unlike humans which are unpredictable.

The present-day AI is not able to reciprocate to human emotions which is one of the key factors in a doctor's consultation. Like a dishwasher or washing machine, humans had a doubt and cast aspersions on it but it is an important and indispensable part of our family.

Care is not just about diagnosing or prescribing medicine. It's about knowing your patient is going to be able to cope with the chemotherapy you're proposing for them, knowing that their family will be able to offer them the support that they're going to need for the next few months. Currently, there is no software that's going to be able to replace that.

Although the above scenario doesn't look possible in the near future I strongly believe that if doctors work hand in hand with newer AI engineers we can provide a better and universal healthcare to all the patients globally. Even if it does reach to that level, Doctors would adapt to a bigger role in the days to come.

Ref:

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AI

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