ROLE OF EMR IN PERSONALISED MEDICINE WITH AI

With the advent of the big data era, the electronic medical record (EMR), which stores all medical processes such as patient reception, examination, blood test, medication, surgery, and medical expenses, is evaluated as the most reliable medical data in the healthcare system.

Personalized medical service can be achieved with the help of specifically trained models on the basis of the patient's individual disease and treatment history, personal health record, genetic characteristics, daily life patterns, or eating habits, and ultimately provides an optimized and customized diagnosis/treatment for the individual. It is possible to predict future diseases of patients through personalized medical services; a representative example is IBM Watson, an AI program, which provides cancer treatment by using gene big data.

Many patients recurrently visit doctors and undergo treatments while receiving different prescriptions and reports. In case of an emergency, the doctors and attendants may need and benefit from the patients' medical history. However, they are unable to go through medical history and a wide range of previous reports and prescriptions due to time constraints. This problem can be adequately addressed with the help of an AI-assisted blockchain-based framework in which the stored medical records are used in AI techniques like optical character recognition (OCR) to form a single patient medical history report. The report concisely presents only the crucial information for convenience and perusal and is stored securely over a decentralized blockchain network for later use.

Various studies and projects have already been conducted to utilize EMR data. In recent years, EMR data have been used in various ways as a data source for AI, and several studies are being conducted on the methodology for additional multi-center expansion.[40] However, in order to develop AI that can be used clinically, not only is the correct collection of data essential but also various efforts and policies for clinical use are required.