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SETINT AI ARTIFICIAL INTELLIGENCE HOSPITAL PROJECT

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Abstract

In 2019, we started our corporate activities at Düzce University Technopark. We are engaged in R&D studies in the field of health sector. The main aim of our organization is to increase the recognition level of our country in the field of artificial intelligence in health in the country and abroad and to be the first in the position of artificial intelligence hospital. As a result of our studies and activities, we include our valuable professors and colleagues within our organization. In addition, we cooperate with various institutions and organizations and take new steps with them. We have reached a consensus on cooperation not only with domestic employees, institutions and organizations, but also with many countries abroad.

Key Words: Telemedicine; Artificial Intelligence; Health; Technology

Introduction

Artificial intelligence in healthcare is a broad term used to describe machine learning algorithms, software, or artificial intelligence (AI) to mimic human cognition in the analysis of complex medical and healthcare data. Specifically, AI is the ability of computer algorithms to approximate outcomes based on input data alone. The primary purpose of health-related AI applications is to analyze the relationships between prevention or treatment techniques and patient outcomes (Coiera, 1997). Artificial intelligence programs are applied for applications such as diagnosis processes, treatment protocol and drug development, personalized medicine, patient monitoring and care. AI algorithms can also be used to analyze large amounts of data through electronic health records for disease prevention and diagnosis (Coiera, 1997). Big technology companies such as IBM and Google have also developed AI algorithms for healthcare (Bloch-Budzier, 2016; Lorenzetti, 2016). In addition, hospitals may need AI software to increase cost savings, increase patient satisfaction, meet staffing and workforce needs, and support initiatives (Lidströmer et al., 2022). Currently, the United States is investing billions of dollars to advance the development of artificial intelligence in healthcare. Companies are optimizing staffing levels by reducing the number of inpatients and length of stay. In this way, technologies that help improve the work of health managers are developed (Luca et al., 2016).

Our Mission

SETINT AI ARTIFICIAL INTELLIGENCE HOSPITAL

In the project, there are studies to develop diagnosis - diagnosis and treatment methods with artificial intelligence systems and robot technology in the field of health. An R&D prototype was built to develop an in-hospital patient referral and nurse support system with a robot nurse. SETINT AI AI HOSPITAL project artificial intelligence telemedicine online doctor system and SETINT Vital Kit: that is, remote patient fever, pulse, So2, EKG, EMG measurement kit were created. This created system has been put into use and continues to be
developed. Robot nurse and vital kit studies were stopped due to the AI project. Currently, the telemedicine system can make a preliminary diagnosis, and in the future, the diagnosis, laboratory and pathological evaluation phase will be started. We aim to deliver this work to all individual users who take care of their health and to users who need home care. For this, we meet and reach consensus with various institutions and organizations. These institutions and organizations include: Ministry of Health, hospitals, medical centers, health institutions, private practice, HIMS systems, pharmaceutical companies, businesses that have to have a physician, the Military, the General Directorate of Security, the gendarmerie, banks and insurance companies.

In addition, our project has been accredited by the American Institute of Medicine and expanded the scope of accreditation and obtained the necessary clinical research approval to conduct joint clinical studies. Along with this important study, we published the AI Hospital statement, which was included in the public and private literature for the first time in the world and in Turkey, at the congress held by TUSEB. Within the scope of these studies, we contribute to the awareness of our country in the field of artificial intelligence in health by making various scientific publications. We cooperate with various organizations to strengthen our work.

We continue to cooperate with other public and private medical faculties. While these processes were going on in our country, we held talks with the University of Victoria in Canada on the issue of joint publications and we reached a consensus. Apart from Canada, the accreditation process continues with the Ministries of Health of Singapore and Germany, and our project continues to work to become a global role model in the field of artificial intelligence in health.

**Our Value Propositions and Main Activities**

The SETINT AI ARTIFICIAL INTELLIGENCE HOSPITAL project we have created is a great development in the field of artificial intelligence in health. Because, both in our country and in the world, other hospitals and health institutions are insufficient in the face of the increasing number of patients and diseases. Especially in this world we live in, diseases change their characteristics compared to past years and become resistant to classical treatments. In addition to these, the methods applied in internal and surgical branches in hospitals have begun to lose their effectiveness compared to previous years. Because the patient profile changes as well as the diseases and the patient's body system remains unresponsive to treatments. Working doctors and other health professionals also apply to different diagnosis and treatment methods.

At this point, this project we have done provides great support to doctors and health workers in diagnosis and treatment method. Because it both helps in the definitive diagnosis and reduces the workload of doctors by balancing the number of patients coming to hospitals. In this way, the examination time of the patients increases and the doctors have the opportunity to communicate with the patients more easily. Thanks to this artificial intelligence system, it will be able to make a high-accuracy preliminary diagnosis in a short time. In addition, the amount of money spent by hospitals will also reach the balance. The project will contribute to the creation of hospitals suitable for the digital age adopted at the World Economic Forum in 2018. At the management level, it will contribute to the reduction of national health expenditure budgets and plans will be made easily with big data in the field of health. When we look at the basis of individual users; People will be able to make an appointment easily, they will have the opportunity to get an appointment from professors who are experts in their fields and to be examined with a very economical fee. Thanks to the online system, they will be able to ask
questions and be examined by the doctor whenever they want. With the 24/7 monitoring of vital values, diseases will be predicted and early diagnosis will be possible. In this way, possible epidemics will be prevented. Our system will broadcast in 8 languages and will also serve other countries regardless of its geography.

When we did the necessary literature review, it was determined that although no product was found in Turkey that was included in the ecosystem, various studies were carried out on this subject. The studies obtained as a result of national and international literature studies are as follows: Koç E health, Online Doctor, Doctors Calendar, Ministry of Health What's Up, Private Hospitals and online doctor services of doctors via Whatsapp, My Hospital is Next to Me, Doctor Follow, Acibadem Online Doctor, Medikal Park Online Doctor, IBM WatsonPaths, Google Deepmind, Careskore, Zephyr Medicine, Oncora Medicine, 3Scan, Enlitic, Artery and Bay Labs. But these systems mostly handle Online Doctor interviews. Our project, on the other hand, shaped its work as an artificial intelligence hospital and started to progress in the diagnosis and treatment of all diseases.

Users will be able to choose 3 methods at the point of access to our project. The first method will enable communication with the hospital through the HIMS software system accredited by SETINT AI Hospital. As a result of this communication, data transfer to the hospital will be possible. Thanks to data transfer, this application that we have created will be available. The second method is that hospitals, medical centers, public and private medical faculties and other organizations that want to use this product will have detailed information about the product by contacting us via the website we created or by contacting us via linkedin, instagram, facebook, twitter and other social media outlets. thereby be able to provide. The third application is obtaining from the mobile application. A mobile application of our project will be created in the future, so that patients, hospitals, medical centers, public and private medical faculties and other institutions who want to use the product will be able to obtain it thanks to Google Play and IOS processors. Even doctors and patients will have the opportunity to benefit from this mobile application.

In addition, people and institutions who know this system and have command of the system, hospitals, medical centers, other institutions or doctors and other health workers and other professional groups also have knowledge of this system and their suggestion is an important reference point for our project and its users. encourages people to use our project.

**Project Introduction and User relations**

In this part of our project, we use different methods. The first of these is social media. Social media promotion is of great importance for the product to reach every institution. Thanks to the news and various articles and articles to be shared on Linkedin, it will be possible to have information about the product we have created and it will be revealed with which institutions and organizations we cooperate. Thanks to the posts shared on Instagram, it will be possible to reach users of all ages. Because today, artificial intelligence attracts everyone's attention and makes various arrangements to use it. In addition, doctors, hospitals and other organizations that reach a certain audience by sharing on Instagram will also be informed and have the opportunity to reach their followers. By establishing groups on Facebook, another social media organization, it will be possible to reach other health groups and doctors. In addition, by including doctors, other health professionals and people from occupational groups in these groups we have established, they will have the opportunity to have more detailed information about this product and to use this product within their own structure. Twitter is a channel that closely follows
both the country's and the world's agenda. Every day, new news is shared and delivered to everyone. Thanks to this power of Twitter, we will have the opportunity to deliver our product to everyone. Thanks to their posts, we will come to an important place on the Twitter agenda.

Another method would be through one-on-one interviews. Apart from the software system, mobile application and various social media organizations, one-to-one meetings are also of great importance in the promotion and use of our project. Because, thanks to the mutual exchange of ideas and various agreements, our project that we have created will have the opportunity to be tested by the users themselves. In this part, our promotion and marketing teams, who work within our project SETİNT AI HOSPITAL, have a great responsibility. Because it is important to give the best information to hospitals, medical faculties, various medical centers and other institutions and organizations who are curious and want to use this product and to encourage them to use this product.

Apart from social media and one-on-one meetings, contacting via e-mail is another promotional part. The mail system continues to operate actively around the world. Because important employees and organizations attach great importance to this system. We also use this system to convey our project to other institutions and organizations. While using the mail system, we act in accordance with the KVKK text. In accordance with the information obtained from the KVKK text, we make promotions to various hospitals, medical faculties, medical centers and other organizations via e-mail.

**Our Goals**

First of all, the AI HOSPITAL System will be introduced at the congress to be organized by TÜSEB and will enter the literature. After the literature studies, we will start the other Phase phases that we continue. Our plan after Phase 4 is to create a self-healing human anatomy model by training leukocytes in the human immune system with artificial intelligence. Preliminary studies on this subject are carried out at the initial stage. The project is scheduled to start in 2023.

**Conclusion**

As a result, we aim to continue our project not only as a system in the field of artificial intelligence in health, but also as an artificial intelligence hospital in health, for the first time in the world and in Turkey. For this purpose, we continue to cooperate with various institutions and employees in our country and with other countries in the world. We have applied for patents in 154 countries for this. As a result of our cooperation, we aim to increase the awareness of our country in the field of health and artificial intelligence in the world.

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