

Artificial Intelligence and Healthcare - Health 2.0 Asia - Japan Report

Source:

healthcare-biz.jp/2016/12/人工知能とヘルスケア——health-2-0-asia-japanレポート/

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TECHNOLOGY 2016.12.21 Wed. Yoshi Okuda

Health 2.0 Asia - Japan, an international conference that introduces new initiatives and products and services in the medical and health technology fields. Regarding the application of artificial intelligence in the healthcare field, a wide range of subjects from the actual developers, from the effectiveness of AI to the problem, the prospect of healthcare applying AI from the actual service demonstration. This time we will deliver that digest.

From the official program



<Overview>

How can artificial intelligence be utilized in the healthcare field. Session over the newest topic. The future of healthcare the three actors working on designing actual algorithms in each field talk about.

<Moderator>

Matthew Holt Health 2.0

<Speaker>

Hideki Takeda Co., Ltd. FRONTEO Health care
Yamadera Jun Co., Ltd. Eyes, JAPAN
[Guido Pusiol Stanford University](#)

In this session, with a theme of how artificial intelligence is involved in health care, a system for preventing inpatient falls using AI, a care setting support system for the elderly using a thermography movie called a therm set, a cancer determination from saliva There was an introduction such as how to do.

Moderator Matthew Holt said, "There are observations that 80% of physicians will be

replaced by AI, but it will be like a pilot in the sense that 80% of the doctor's function will be replaced." It was.

There was also an opinion that the use of AI has the meaning of "understanding itself more by using an algorithm" and "correcting human errors".

Mr. Takeda of FRONTEO Healthcare said, "With AI, it is replaced by the advanced abstraction that we could not have done so far, the objectivity of judgment goes up, while at the same time the workload of medical staff will go down" In addition, "As an example to be solved, taking the evaluation algorithm of depression conducted by the company as an example

Safety of the cloud becomes a problem when checking against the data raised in the cloud and returning the diagnostic result

If the number of data that becomes the basis of the diagnosis increases, there is a possibility that the judgment of machine learning that AI is performing may change, but how to demonstrate learning change judgment and ensure reliability

How to obtain legal approval with evaluation index derived as a result of machine learning when introducing to practical clinical practice

And others.

Regarding the AI threat theory, Mr. Yamadera of Eyes, JAPAN says, "Singularity (human artificial intelligence transcending human beings that transformation of human beings by humans' brain data can continue to live forever by putting it in the computer It is a wonderful thing that replacing human work with AI is a threat, but if the precision of basic income that guarantees minimum necessary income is adjusted, human beings are not deprived of jobs at AI It can be said that it will be released from. " Meanwhile, Mr. Takeda of FRONTEO Healthcare, as an example of a service alerting the deterioration of spiritual balance from text analysis of AI daily report on employment support for people with mental disabilities working with LITALICO, "AI If you do not want to defeat the morale of the staff in the scene, and the young staff learn from the prediction of the AI "There is a transfer of knowledge through AI" also pointed out that merit.



Eyes Corporation, JAPAN Mr. Jun Yamadera

In the demonstration, Eyes, JAPAN explained the determination of cancer using saliva. At the stage of onset of cancer or before the onset of symptoms, the state of the protein involved in cellular immunity, called sintokine, changes. It analyzes it with AI and judges or predicts the onset of cancer. We use an algorithm that reads 40 years worth of data and 200,000 abnormal papers.

"The saliva collection has no burden on the human body, the examination is quick and easy, and there is the advantage that the site where cancer develops can be identified," Mr. Yamadera. He pointed out that medicine will be predictable and preventable.

Mr. Pusiol at Stanford University uses a thermographic sensor for bedridden patients at home to analyze the animation to AI, announcing a system to assist nursing care, support for independence. Because it is a sensor that reacts with heat, you can grasp the condition in the futon and what happens even in the evening. Also, "By knowing the enormous amount of data in the past, we can also determine the meaning of what is going on" (Pusiol). The camera itself does not need to have high performance, and emphasized the possibility as a relatively inexpensive watching system.



FRONTEO Healthcare introduces a system that predicts falls and falls of hospitalized patients by analyzing the description of electronic medical charts developed with NTT East Japan Kanto Hospital. Patients who are liable to fall over are common in that descriptions of "charts can be autonomously walked" and "contents are meaningless, they are in a delirium state, attention decreases" It is determined from the description of a huge number of medical records, scoring and judging the ease of falling. "Reduce the burden on nurses and prevent serious accidents in the hospital" (Mr. Takeda). Currently it is said that about 50% of predictions are made.

How to incorporate AI-based health care into the health care system, not a medical practice such as wondering how to implement AI to make final decision making by humans, watching system and prediction system However, the session was concluded with issues such as the need to change the health system itself.