Application of big data and artificial intelligence in traditional medicine
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Abstract

With the advancement of the times, the computing power of computers has been improved, and the ability to process data has become faster. The accumulated data and documents of traditional medicine for thousands of years contain a large amount of clinical experience data. Owing to the development of computer technology the traditional medicine will change a lot in decade. This time I will introduce a few applications in combing traditional medicine and artificial intelligence, mainly covering several directions, including the collation of traditional medical literature, the application of clinical artificial intelligence program which were roughly divided into diagnosis and treatment.

The diagnosis system includes four diagnostic methods: inspection, auscultation and olfaction, inquiry, and pulse-taking and palpation. The AI (Artificial Intelligence) system of inspection will focus on the color and texture of the patients' face, eye as well as lips. Our team developed AI system by using NLP (Natural Language Processing) to collect the symptoms such as headache, stomach ache as well as dizziness to give some advises or herb formula to people to relieve symptoms. In order to make sure that people or traditional medical practitioners will buy the correct species of medical materials, our team collect more than 25000 photos of the herbs by Android smartphone, apple phone, and monocular digital camera to developed the AI system by using CNN (Convolutional Neural Networks) to tell apart the right herbs from the wrong one. With the increase of computer computing power and the development of artificial intelligence, traditional medicine is also moving towards a new milestone. The above examples are just some applications. Final, I hope that more practitioners or experts in traditional medicine and acupuncture will participate in this filed. The innovate of traditional medicine will occur in artificial intelligence research.

Biography

Ta Chen Chen has completed his PhD from China Medical University, School of Chinese Medicine, Taiwan. He is the Assistant Research Fellow of China Medical University Hospital and teaches herbs in China Medical University, Taiwan. He is experienced in Chinese medicine industry, officials, academics, and researches. He is familiar with the quality and origin of majority of Chinese herbal medicine, thus he has engaged in editing Taiwan Herbal Pharmacopeia. He has researched and worked on the development of Nano-scale Chinese herbal medicine as well as new dosage forms of Chinese medicine. He has extensive knowledge in Chinese medicine extraction, cell and animal experiments and human clinical trials. He applies big data and AI to analyze and induce the Chinese herb medicine and prescription from ancient books in order to obtain effective compositions. Recently, he had been developing and applying Chinese veterinary herbal medicine products; nutritional supplements and vaccines are substituted for medication.

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