

論 文 要 旨

2020 年 8 月 22 日

※報告番号	甲 第 276 号	氏 名	Vu Dinh Minh
<p>主論文題名</p> <p>A study on a virtual agent for dengue fever decision support based on conversations and ontology</p>			
<p>内容の要旨</p> <p>Virtual agent is the fundamental term in the artificial intelligence topic, which can communicate to human. For supplying the demand of people, virtual agent has been utilized across various aspects, including the economy, traveling, medical and so on. Especially, a virtual agent in the medical topic has attracted impressive attention of many researchers because of the increasing demand for human health care. Instead of meeting a doctor, people can retrieve useful information through communication with a conversational agent. However, making a virtual agent is one of the most difficult challenges for researchers. The reason is that there are different languages between machines and humans. Besides, the huge medical knowledge needs to be equipped to a virtual agent for working in medical topics. To do so, it is necessary to transfer natural language to the computer language and teach the experience of medicine to a machine; thus, a proper solution is to use a deep learning's technique and an ontology to respond to the question. Regarding the necessity of my dissertation, a medical virtual agent can solve the problem of lacking well-trained doctor in the developing countries such as Vietnam and reduce the overload of hospitals. As a result, the quality of health care services can also be improved. The main objectives of this research were to solve the problem of natural language understanding by using sentence embedding model and an ontology as well as to classify disease based on the clinical symptoms. This is to supports making conversations in the medical topic. In this dissertation, I proposed a novel deep learning-based health decision support system for making conversation of diseases between patients and doctors. To do so, I also introduced several systems: intent classification, medical symptom suggestion based on ontology, and disease classification. Through conversation, the proposed system can respond to the related information of disease as well as predict the possibility to have dengue disease of users. From that, the proposed system aims at improving humans healthy and solving the problem of lacking doctors in developing countries. In my future research, I intend to concentrate on improving the system to expand the ability of diseases prediction. Besides, the ability of natural language understanding</p>			

and the accuracy of disease classification are the most important. This will be great, if the system will be published on the Internet for evaluation. Finally, a generative virtual agent can communicate to human in open domain which is best target.

※印欄記入不要