Using virtual reality and speech recognition to create specialized databases for prediction.

Eugen Ružický[1], Ján Lacko[1] , Milan Rusko[2]

1 Faculty of Informatics, Pan-European University, Bratislava

2 Department of Speech Analysis and Synthesis, Slovak Academy of Science, Bratislava

This paper shows two examples of the use of an original methodology for creating databases using virtual reality and speech recognition for use in healthcare and industry. The new proposed methodology is based on the combination and interaction of advanced machine learning techniques, the use of virtual reality and speech recognition. The first example "A system for telerehabilitation of patients" will show the possibilities of such use of virtual reality for rehabilitation of patients in a home environment. Patient analysis results provide information on exercise accuracy, physical exertion, and the patient's experience of stress and pain. These results from the created database allow the physiotherapist and physician access to individual planning for further telerehabilitation. The second example "Virtual simulator for training and testing of employees" will show the possibilities of effective training of production line workers in industry with the possibility of correct placement of adepts in the production process.