Foreword and Editorial

Asia-Pacific Journal of Neural Networks and Its Applications (AJNNIA)

We are very happy to publish this issue of an Asia-Pacific Journal of Neural Networks and Its Applications by Global Vision Press.

This issue contains 4 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

In the research paper "Detecting Drug-Drug Interaction (DDI) over the Social Media using Convolution Neural Network Deep Learning", Drug-Drug Interaction (DDI) detection is a challenging problem for drug manufacturers, drug regulatory authorities, and medical professionals alike. It is impossible to run trials or be aware of every single case involving an entire population. Research in the use of social media data is currently gaining attention, and with the application of machine learning techniques has been successfully applied in businesses. This paper presents a project extracting DDI from biomedical text using a Convolutional Neural Network (CNN) classifier. The classifier is trained on the SemEval 2013 DDIExtraction challenge dataset and aims to automatically learn the best feature representation on the input of the given task. Different models have been proposed, which make use of position embeddings in combination with word embeddings trained on the machine learning model to learn features. Word embeddings are necessary for providing dense vector representation of words that can be trained, but a large amount of data is required to train an effective vector representation of words. To compensate for the lack shortage of data, the CNN model is trained on a pre-trained PubMed word embedding, which provides a vector dimension of size 200 for the representation of each word. This project aims to provide a trained CNN model for which vector representation of words is provided by weights that have been trained for medical text classification purposes.

The paper "Descriptive Study on the Influence of Intermediation Methods Using Robots on the Improvement of Upper Extremity in Stroke Patients" explored that upper extremity dysfunction, which occurs after stroke, acts as a major cause of obstruction of motion, such as elaborate hand gestures, manipulation, eating, writing, personal hygiene control, expression of opinion, walking and balancing, etc., thus hindering the social independence of patients and causing poor quality of life. Restoration of upper limb function in stroke patients can be said to be important in maintaining the most basic human life. The walking function of the lower extremities is as important as the walking function of the lower extremities in carrying out daily life. In this study, when patient-centered robot assisted rehabilitation was applied to patients with subacute stroke through setting demands and goals for daily life, and motion analysis, it was positive not only to improve the patient's upper body function, but also to improve the performance of daily activities rather than robot-centered robot assisted rehabilitation with the focus of existing robot devices. In addition, patient-centered robot assisted rehabilitation and robot-centered robotic rehabilitation were more effective than traditional rehabilitation in the range of joint operation of the upper distal region, grip of the hand, and grip strength. On the other hand, patient-centered robot assisted rehabilitation and

traditional rehabilitation showed more positive effects than robot-centered robot assisted rehabilitation. Based on these findings, it is meaningful that the research provided a basis for applying patient-centered robotic rehabilitation to improve upper limb function and performance of daily operations in subacute stroke patients.

In the paper “A Study on Backpropagation in Artificial Neural Networks”, innovation assumes essential job nowadays in human life to limit the manual work. Execution and exactness with innovation will be high. The Backpropagation neural framework is multilayered, feedforward neural framework and is by a full edge the most extensively utilized. It is moreover seen as one of the least demanding and most wide systems used for managed planning of multilayered neural systems. Backpropagation works by approximating the non-direct association between the data and the yield by changing the weight regards inside. It can furthermore be summarized for the data that is rejected from the planning structures (perceptive limits).

The research paper “Machine Learning Algorithms for Parkinson’s Disease Detection” explored that machine learning now days plays a crucial role in real-time problem analysis and providing solutions with its popular algorithms. Nowadays, in the health care sector, machine learning algorithms are involved in detecting the health issues of patients. This paper elaborated detailed information about how the ML algorithms are detecting Parkinson’s disease. Parkinson’s sickness is caused by the interruption of the brain cells that generate an essence to permit synapses to speak with one another, called dopamine. The cells with the purpose of produce dopamine in the cerebrum are answerable for the control, adjustment and familiarity of developments. At the point when 60-80%of, these cells are missing, at that point adequate dopamine isn’t delivered, and Parkinson’s engine indications show up Here we used random forest and XGBoost algorithms to detect the disease XGBoost giving the best performance than the Random forest.

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