Commentary

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Predicting Medical Therapy Using a Computational Intelligence Method

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Abstract

Methods of computational intelligence are proving to be effective assistance for physicians and other medical personnel, boosting objectivity when making diagnostic and treatment decisions while also reducing decision time. Using computational intelligence tools to predict three stroke variables surgery required, rehabilitation, and days of rehabilitation required, we will have a reference point, and our overall goal for future research is to follow-up on the subjects to help them return to their normal lives faster and at a lower cost. The development of a Database Acknowledgment (DBK) using Neural Network (NN) methods is proposed to anticipate the three characteristics mentioned: surgery, treatment, and days of rehabilitation. The goal is to use three different tools to develop an ideal neural network setup utilising the actual information available: One is manual, another is semi-automatic, and the third is based on Neuro-Intelligence. The prediction error of our proposed solution must be as low as possible.

Keywords: Computational Intelligence, Neural Network, Health care.

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Introduction

The goal of computational intelligence is to replicate human cognitive functions. It's causing a paradigm shift in healthcare, thanks to the growing availability of healthcare data and the rapid advancement of analytics techniques. It can be used on a variety of different forms of healthcare data (structured and unstructured). Machine learning methods for structured data, such as the classic support vector machine and neural network, and current deep learning, as well as natural language processing for unstructured data, are among the most popular of these techniques [1]. Cancer, neurology, and cardiology are three major illness areas that use these technologies. Computational intelligence technologies can also be used to combat this public health crisis by correcting misinformation and disseminating individualised information on appropriate advice and treatment. To address the problem of misinformation, search engines like Google and social media platforms like Facebook use algorithms to remove any inaccurate or misleading content from their platforms and provide consumers with individualised knowledge based on Computational intelligence. Furthermore, chatbots and online assistants have been developed to respond to people's questions and to help hospitals triage patients based on the presence of symptoms. Additionally, computational intelligence has been used to identify patients who are at an increased risk of dying. The Medical Home Network, for example, has built an AI-assisted approach that uses the risk of respiratory problems to identify high-risk individuals. In the medical literature, the benefits of computational intelligence have been extensively studied [2]. It can 'learn' features from a massive volume of healthcare data using complex algorithms, and then use the results to aid clinical practise. It could also have learning and self-correcting capabilities to enhance accuracy depending on input. In the medical literature, the benefits of computational intelligence have been extensively studied. It can 'learn' features from a massive volume of healthcare data using complex algorithms, and then use the results to aid clinical practise. It could also have learning and self-correcting capabilities to enhance accuracy depending on input. Before computational intelligence systems can be used in healthcare, they must be "trained" using data generated by clinical activities such as screening, diagnosis, treatment assignment, and so on, so that they can learn similar groups of subjects, associations between subject features, and desired outcomes. These clinical data might take the form of demographics, medical notes, and electronic records from medical equipment, physical examinations, clinical laboratory tests, and photographs, among other things [3]. A large amount of the Computational intelligence literature examines data from diagnosis imaging, genetic testing, and electrodiagnosis during the diagnosis stage. It's also been used to predict and analyse the effectiveness of stroke treatment. The outcome of intravenous thrombolysis (tPA) as a key emergency measure has a strong

association with the prognosis and survival rate. Meta-analyses and clinical trials employing Bayesian belief networks to improve the clinical decision-making process for tPA treatment.

Conclusion

To assist physicians and other medical professionals in making medical decisions, computational intelligence approaches such as artificial neural networks (ANNs), fuzzy logic (FL), support vector machine (SVM), or machine learning algorithms have been created. These methods have shown considerable promise as the foundation for models that will aid in clinical diagnosis, prediction, and management. Traditional diagnostic and clinical management approaches, which can be subjective and time-consuming, can potentially be improved by using computer models.

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