Abstract

Mental disorders have a large impact on individuals, families, and communities, and are one of the main causes worldwide of disability and distress. Correct diagnosis of mental disorders is essential in clinical practice, pharmacological research, and successful treatment. Patients with mental retardation often have multiple and sometimes complicated medical problems. In this paper we have proposed a feed forward back propagation neural network to classify the level of mental retardation by using Matlab software. There are six neurons in the input layer which represent the attribute of a patient. Output layer contains four neurons which represent four different levels of mental retardation in which each patient will be classified.

References

- Backpropagation: http://en.wikipedia.org/wiki/Backpropagation
- Diagnostic and Statistical Manual of Mental Disorders (4th edn, text revision) (DSM-IV-TR): http://bja.rcpsych.org/content/179/1/85.1.
- Vijay Khare, Jayashree Santhosh, Sneh Anand, Manvir Bhatia,
Predicting the Class of a Mentally Disabled Patient to Check the Level of Mental Retardation by using Feed Forward Back Propagation Neural Network

- José del R. Millán, Josep Mouriño, Marco Franzé, Febo Cincotti, Markus Varsta, Jukka Heikkonen, and Fabio Babiloni, "A Local Neural Classifier for the Recognition of EEG Patterns Associated to Mental Tasks"
- Sarah M. Hosni, Mahmoud E. Gadallah, Sayed F. Bahgat, Mohamed S. AbdelWahab, 2006, "Classification of EEG Signals Using Different Feature Extraction Techniques for Mental-Task BCI"
- Vitaly Schetinin Theorie Labor, Friedrich-Schiller, 2001, "Polynomial Neural Networks Learnt to Classify EEG Signals"
- Leslie Cromwell, Fred J. Weibell, Erich A. Pfeiffer, 2007, "Biomedical Instrumentation and Measurements"
- S. N. Sivanandam, Sumathi & Deepa, 2006, "Introduction to neural networks using MATLAB 6. 0"
- Prakash Chandra Gupta & Manu Pratap Singh, 2009, "Analysis of Performance Evaluation for the Classification of Protein through Solubility with Evolutionary Hybrid Algorithm in Feedforward Neural Network"
- Simon Haykin, 2005, "Neural Networks"
- Harry B. Burke, 1997, "Evaluating Artificial Neural Networks for Medical Applications"

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