Neuro-Fuzzy Networks and Their Applications in Medical Fields

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The fusion of artificial neural networks and fuzzy logic systems allows researchers to model real-world problems. Artificial neural networks are able to adapt and learn by adjusting the interconnections between layers, while fuzzy logic inference systems provide a computing framework based on the concept of fuzzy set theory, fuzzy if-then rules, and fuzzy reasoning. The combined use of those adaptive structures is known as “neuro-fuzzy” systems. In this paper, the basic elements of both approaches are analyzed, leading to the identification of several possible applications of neuro-fuzzy systems in medical fields.

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