

ABSTRACT

The Case- Based Memory Network Model and its use in Medical Expert Systems

Wayne Goodridge

A theoretical model called the Case-Based Memory Network Model is introduced that captures selected patient cases into a data structure that incorporates the fundamental components of expert systems. This data structure is made up of a discrete pattern associative neural network of information entities. The Case-Based Memory Network Model is implemented as a computer system called CaseB-Pro. This system generates appropriate questions and suggestions based on a notion of diagnosis developed by its neural network and knowledge base. When tested by medical experts, the system produced reasonable diagnoses. However, areas of further research were identified to improved the model.