

**Title of Article:** Improving Medical Rule-Based Expert Systems Comprehensibility: Fuzzy Association Rule Mining Approach

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**Abstract:** In this paper, a Fuzzy Association Rule Mining (FARM) with expert-driven approach is proposed to acquire a knowledge-base, which corresponds more intuitively to human perception with a high comprehensibility. This approach reduces the number of rules in the knowledge-base when compared with the Standard Rule-base Formulation (SRF) and makes possible the rating of the rules according to their relevance. The rule relevance is determined by the measures of significance and certainty factors. The approach is validated using a medical database and the result shows that this approach ultimately reduces the number of rules and enhances the comprehensibility of the expert system.