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A Theoretical Comparison of Disco and CADIAG-II-like Systems for Medical Diagnoses

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Abstract: In this paper a fuzzy relation-based framework is shown to be suitable to describe not only knowledge-based medical systems, explicitly using fuzzy approaches, but other ways of knowledge representation and processing. A particular example, the practically tested medical expert system Disco, is investigated from this point of view. The system is described in the fuzzy relation-based framework and compared with CADIAG-II-like systems that are a "pattern" for computer-assisted diagnosis systems based on a fuzzy technology. Similarities and discrepancies in – representation of knowledge, patient's information, inference mechanism and interpretation of results (diagnoses) – of the systems are established.

This work can be considered as another step towards a general framework for computer-assisted medical diagnosis.

Keywords: fuzzy relations; medical diagnoses;

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