

Application of Fuzzy Techniques in Medical Diagnosis

Geetika^{1*} and Ankita Gaur²

¹ Manav Rachna University, Master's Student, Department of Sciences (Mathematics)

² Manav Rachna University, Mathematics Faculty, Department of Sciences (Mathematics)

*Corresponding author's e-mail: geetikawadhwa99@gmail.com

ABSTRACT

Fuzzy logic and fuzzy set theory have emerged as invaluable tools in various applications, such as pattern recognition, medicine and healthcare, and many more. Their unique properties help to facilitate the formalization of uncertain data. The conventional methods of medical diagnosis often face difficulties with vague and imprecise symptoms, which are challenging to interpret accurately. As a result, the need for a more flexible approach like fuzzy logic, which is well-equipped to vague linguistic terms and provide precise interpretation, becomes evident in the field of medical diagnosis. This review paper offers a comprehensive mathematical and visual analysis of two widely used techniques in the domain of medical decision-making. The two methods max-min composition and max-min average composition are compared and analyzed with the help of the score matrices. The primary objective is to discern the most effective approach for diagnosis based on the patient's symptoms.

Keywords: IFR (Intuitionistic Fuzzy Relations), IFS (Intuitionistic Fuzzy Set), IFSM (Intuitionistic Fuzzy Soft Matrix)

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