Intelligent Systems Project Proposal

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Title: Application of Deep Fuzzy Systems to Arrhythmia Detection in Cardiac Patients

The goal of this project is to achieve a high performing model in predicting health conditions with the use of prerecorded data on electrocardiogram heartbeat samples. The data set is highly unbalanced, has a high dimensionality and the sensors that recorded the data also produced noise and therefore data preprocessing will be crucial to reach the desired objective. Additionally, black box models aren't favored in the health industry due to the lack of explainability, which is where the use of fuzzy models can bridge that gap.

This project will use hybrid learning, in which both fuzzy models and deep learning models will be explored so that a proper comparison can be made.