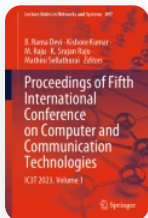


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FLAML-HDPS Model: An Efficient and Intelligent AutoML Approach for Heart Disease Prediction

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Abstract

Heart health is vital for the survival of all living things. Heart-related illnesses require more precision, accuracy, and correctness in diagnosis and prognosis since even a small

mistake might have fatal consequences. Each year, numerous people die from heart-related causes, and this figure is sharply rising. As a first step toward solving the problem, a disease prediction system and more public awareness are required. An increasing number of people are suffering from heart disease every minute, and it has now become a major public health issue. A complicated mix of medical and pathological data is frequently required for the diagnosis of cardiac disease which results in significant medical costs, which have an impact on the standard of care. To make predictions about heart disease based on medical information, this study was undertaken. Using Fast and Lightweight AutoML (FLAML), we analyzed a large dataset with 14 different categories, such as age, gender, medical measures, and test results. Machine learning algorithms, hyperparameters, and model ensembles were all selected, regulated, and optimized automatically by the FLAML framework. High levels of accuracy, precision, recall, and ROC-AUC in our heart disease prediction models were generated by using FLAML. FLAML's streamlined process saves doctors and nurses precious minutes every day, paving the way for more accurate risk assessments and more effective treatment of heart disease thanks to the power of predictive analytics.

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