PERFORMANCE ANALYSIS OF LR AND SVM MODELS FOR DIABETES PREDICTION

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OUR RESEARCH WORK: HOW HYPERPARAMETER TUNING AND SEARCH STRATEGIES IMPROVE PERFORMANCE OF LR AND SVM MODELS FOR DIABETES PREDICTION

Why this research is important	Diabetes is a lethal disease affecting people worldwide. Early prediction through machine learning models is crucial for preventing diabetes progression by effectively identifying individuals at risk.
What we know and don't know	Early prediction relies on a model's performance metrics for a specific dataset. However, the influence of hyperparameter tuning and search strategies in enhancing performance and identifying the optimal model remains uncertain.
Our experiment	Implement base models and set up grid search for each model by configuring model-specific hyperparameters and include performance metrics like accuracy, f1-score, confusion matrix, precision and recall.
Our hypothesis	We predict that optimizing hyperparameters through systematic search and tuning will either maintain or enhance performance metrics of each model, leading to the identification of an optimal model for early prediction of diabetes.