Model Optimization and Tuning Phase Template

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Team ID	SWTID1720174640
Project Title	Early Prediction of Chronic Kidney Disease
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation (6 Marks):

Model	Tuned Hyperparameters	Optimal Values
Logistic Regression	C,penalty,solver	0.1,l2,lbfgs
Support Vector Classifier(SVC)	C,gamma,kernel	0.1,scale,linear

Performance Metrics Comparison Report (2 Marks):

Model	Baseline Metric	Optimized Metric
Logistic Regression	Accuracy : 0.975 Precision :0.6601307189542484	Accuracy : 0.975

	Recall : 0.6486364660806851 F1 score: 0.6542827657378741	
Support Vector Classifier(SVC)	Accuracy : 0.975 Precision: 0.6601307189542484 Recall: 0.6486364660806851 F1 score: 0.6542827657378741	Accuracy : 0.9904

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
Support Vector Classifier(SVC)	SVC model got much better accuracy compared to Logistic Regression model.So,we have selected SVC model.