

Model Development Phase Template

Date	6 July 2024
Team ID	SWTID1720082525
Project Title	Early Prediction of Chronic Kidney Disease Using Machine Learning
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	By combining multiple decision trees, we create a powerful model that can handle intricate relationships in your data. This approach helps prevent the model from becoming overly reliant on specific details and offers insights into which features are most important for making accurate predictions across various tasks.	<ul style="list-style-type: none"> random_state=123 	Accuracy Score=95.8%

Decision Tree	This model is organized in layers, making it easy to understand how it arrives at decisions. It can handle complex relationships between data points, but it can create overly specific patterns if not carefully streamlined.	<ul style="list-style-type: none"> • random_state=123 	Accuracy Score=85%
Logistic Regression	Linear models, while easy to interpret and computationally efficient for well-defined categories, might not handle complex, non-linear relationships as effectively.	<ul style="list-style-type: none"> • random_state=123 	Accuracy Score=92%
KNN	Instance-based learning is an adaptive, model-free approach that handles complex data well. However, it can be computationally intensive and vulnerable to noisy features.	<ul style="list-style-type: none"> • train_size=0.7 in train_test_split() • random_state=123 in train_test_split() • n_neighbors=5 in KNeighborsClassifier() 	Accuracy Score=58%