Model Development Phase Template

Date	15 March 2024
Team ID	SWTID1720113374
Project Title	Predicting Compressive Strength Of Concrete 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)
Linear Regression	A basic regression model that predicts values based on a linear relationship between the features and the target.	None (default)	R^2 Score: 0.68797608607626
Ridge Regression	A regression model that includes L2 regularization to prevent overfitting and improve model generalization.	Default parameters	R^2 Score: 0.6878535212619623
Lasso Regression	A regression model that includes L1 regularization, which can lead to sparse solutions and feature selection.	Default parameters	R^2 Score: 0.644765819542793
Random Forest Regressor	An ensemble method that uses multiple decision trees to improve	Default parameters	R^2 Score: 0.8821778779976575

	prediction accuracy and control overfitting		
XGB Regressor	An optimized gradient boosting regression model known for its high performance and accuracy.	Default parameters	R^2 Score: 0.9020358726873339