

Project Design Phase

Problem – Solution Fit Template

Date	01 February 2026
Team ID	LTVIP2026TMIDS47257
Project Name	Electric Motor Temperature Prediction using Machine Learning
Maximum Marks	2 Marks

We can train our data on different algorithms. For this project, we are applying four Regression algorithms. The best model is saved based on its performance. To evaluate the performance of the model, we use root mean square error and r-square value

Activity 1: Linear Regression

A function named Linear Regression is created and train and test data are passed as the parameters. Inside the function, the Linear Regression algorithm is initialized and training data is passed to the model with the `.fit()` function. Test data is predicted with the `.predict()` function and saved in a new variable. For evaluating the performance of the model, we use root mean square error and r-square value.

Activity2: Decision tree model

A function named decision tree is created and train and test data are passed as the parameters. Inside the function, the Decision Tree Regressor algorithm is initialized and training data is passed to the model with the `.fit()` function. Test data is predicted with the `.predict()` function and saved in a new variable. For evaluating the performance of the model, we use root mean square error and r-square value.

Activity 3: Random forest model

A function named random Forest is created and train and test data are passed as the parameters. Inside the function, the Random Forest Regressor algorithm is initialized and training data is passed to the model with `.fit()` function. Test data is predicted with `.predict()` function and saved in new variable. For evaluate the performance of the model, we use root mean square error and r-square value.

Activity 4: Support Vector Machine model

A function named SVR is created and train and test data are passed as the parameters. Inside the function, SVR algorithm is initialized and training data is passed to the model with `.fit()` function. Test data is predicted with `.predict()` function and saved in new variable. For evaluating the performance of the model, we use root mean square error and r-square value.