Model Development Phase Template

Date	15 July 2024
Team ID	SWTID1720108643
Project Title	Garment Worker Predictivity Prediction
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 (RMSE)
Linear Regressor	A simple regression model that assumes a linear relationship between the input variables and the target variable. It tries to find the best-fitting straight line through the data points	-	0.14607

Decision Tree Regressor	A simple regression model that assumes a linear relationship between the input variables and the target variable. It tries to find the best-fitting straight line through the data points		0.13212
Random Forest Regressor	An ensemble method that fits multiple decision tree regressors on various sub-samples of the dataset and uses averaging to improve predictive accuracy and control over-fitting		0.11211
Gradient Boosting Regressor	An ensemble technique that builds trees sequentially. Each new tree tries to correct the errors made by the previously trained trees		0.11485
XGB Regressor	GBoost (eXtreme Gradient Boosting) is an efficient and scalable implementation of gradient boosting for regression and classification problems. It is designed to optimize computational resources and model performance. XGBoost provides advanced		0.11716

	regularization and parallel processing.		

AdaBoost Regressor	AdaBoost, short for Adaptive Boosting, is an ensemble learning method that combines the predictions of multiple weak learners (typically decision trees) to produce a stronger overall model.	`ada_boost = AdaBoostRegressor(random_state=42)`
		
		`param_grid = {`
		`'n_estimators': [10 ,50, 100, 200, 300],`
		`'learning_rate': [0.001,0.01, 0.1, 1.0]`
		`}`
			0.12741