Model Development Phase Template

Date	15 March 2024
Skillwallet ID	SWUID20250186419
Project Title	Employee Productivity Prediction Application
Maximum Marks	6 Marks

Model Selection Report

This report outlines the various models explored, detailing their descriptions, key hyperparameters, and performance metrics. This provides a comprehensive overview of the models considered and justifies the final selection for the project.

Model	Description	Hyperparameters	R2 Score
Linear Regression	A simple and interpretable model that assumes a linear relationship between the input features and the target variable. It serves as a strong baseline to compare more complex models against.	N/A	-27.999
Random Forest	An ensemble learning method that builds multiple decision trees and merges them to get a more accurate and stable prediction. It is good at handling non-linear relationships.	n_estimators=100, random_state=42	0.2856
XGBoost	A powerful and highly efficient implementation of gradient boosted decision trees. It is known for its speed and performance, often outperforming other ensemble methods.	n_estimators=200, max_depth=5, learning_rate=0.1, random_state=42	0.2068