Model Development Phase Template

Date	July 2024
Team ID	Team-740101
Project Title	Power Consumption Analysis For Households
Maximum Marks	5 Marks

Model Selection Report

In the model selection report for future deep learning and computer vision projects, various architectures, such as CNNs or RNNs, will be evaluated. Factors such as performance, complexity, and computational requirements will be considered to determine the most suitable model for the task at hand.

A model selection report outlines the process of evaluating and choosing the most suitable machine learning model for a specific task, detailing criteria such as performance metrics, computational efficiency, interpretability, and suitability for the dataset's characteristics to justify the final model choice.

Model Selection Report:

Model	Description
Linear Regression	Linear regression is a statistical method used to analyze the relationship between dependent and independent variables by fitting a linear equation to observed data. In the context of power consumption analysis for households, linear regression can help predict electricity usage based on factors like household size, appliances, and time of day.
Decision Tree Regressor	DecisionTreeRegressor is a machine learning model used for power consumption analysis in households, operating by recursively partitioning data into subsets based on features such as temperature, time of day, and appliance usage. It constructs a tree structure where each internal node represents a feature and each leaf node represents a prediction.
Random Forest Regressor	Random Forest Regressor is a machine learning algorithm used extensively for analyzing power consumption in households. It operates by creating a multitude of decision trees during training, each trained on different subsets of data and using random feature subsets.