**Model Development Phase Template**

|  |  |
| --- | --- |
| Date | 9 JULY 2024 |
| Team ID | 740030 |
| Project Title | Leveraging Machine Learning for GDP Per Capita Prediction |
| Maximum Marks | 5 Marks |

**Feature Selection Report Template**

The Feature Selection Report on GDP per capita evaluates which features most significantly impact GDP per capita to enhance model accuracy and insights. The analysis begins with an overview of the dataset, including its source, time period, and key features such as population, education level, and employment rate. The feature selection process involves applying techniques like correlation analysis and Recursive Feature Elimination (RFE) to identify the most relevant features. Results highlight these key features and their importance, with an assessment of their impact on model performance. The discussion provides insights from the selected features, acknowledges any limitations, and offers recommendations based on the findings.

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Description** | **Selected (Yes/No)** | **Reasoning** |
| GDP Growth Rate | The annual percentage growth rate of GDP | Yes | Crucial indicator of economic health and performance. |
| Inflation Rate | The rate at which the general level of prices for goods and services is rising | Yes | Essential for understanding the purchasing power and cost of living. |
| Unemployment Rate | The percentage of the labor force that is unemployed | Yes | Important for assessing the labor market and economic stability. |
| Interest Rates | The cost of borrowing money | Yes | Influences investment, consumption, and overall economic activity. |
| Government Spending | The total amount of public expenditures | Yes | Direct impact on economic growth and public services. |
| Net Exports | The value of a country's exports minus its imports | Yes | Reflects the trade balance and its contribution to GDP. |