Project Initialization and Planning Phase

Date	9 JULY2024
Team ID	739880
Project Title	**Leveraging Machine Learning For GDP Per Capita Prediction**
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

Develop and deploy machine learning models to predict GDP per capita using historical socio-economic data. Evaluate model performance against traditional methods, focusing on feature engineering and interpretability to enhance economic forecasting accuracy. Deliver actionable insights for policymakers and stakeholders based on the analysis of influential factors.

Project Overview	
Objective	To leverage machine learning for accurate GDP per capita prediction by integrating diverse socio-economic data, aiming to improve economic forecasting and inform strategic decision-making.
Scope	This project will focus on collecting and analyzing historical data to develop machine learning models for predicting GDP per capita. It includes data preprocessing, feature engineering, model development, and evaluation, aiming to provide insights into economic trends and influencing factors.
Problem Statement	
Description	The challenge lies in accurately predicting GDP per capita using machine learning amidst diverse socio-economic factors. This entails overcoming data complexity, selecting optimal models, and interpreting results to enhance predictive accuracy, aiding policymakers in informed decision-making for economic development strategies.

Impact	• Improved economic forecasts facilitate optimal resource allocation and budget planning. • Machine learning-driven insights provide deeper understanding of socio-economic factors influencing GDP per capita.
Proposed Solution	
Approach	• Collect and preprocess diverse socio-economic data. • Engineer features for enhanced model accuracy. • Develop, optimize, and evaluate machine learning models. • Provide actionable insights for policymakers based on model findings.
Key Features	- Utilizes machine learning to predict GDP per capita accurately. - Integrates diverse socio-economic data for comprehensive analysis. - Emphasizes feature engineering for enhanced model performance. - Provides interpretable insights for informed policy decisions.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy

Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 10,000 images