**Project Initialization and Planning Phase**

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| Date | 15 March 2024 |
| Team ID | xxxxxx |
| Project Title | Forecasting Economic Prosperity: Leveraging Machine Learning For GDP Per Capita Prediction |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This proposal aims to leverage advanced machine learning techniques to create a robust solution for accurate GDP per capita prediction, addressing the limitations of traditional methods and providing valuable insights for stakeholders.

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| **Project Overview** | |
| Objective | To develop a machine learning model that accurately forecasts GDP per capita by leveraging historical GDP data and various economic, social, and demographic factors. |
| Scope | The project will focus on collecting and preprocessing relevant data, developing and training a machine learning model, and validating its accuracy. The solution will be applicable to multiple countries and provide forecasts for various time horizons. |
| **Problem Statement** | |
| Description | Traditional methods of forecasting GDP per capita often fail to incorporate a wide range of influencing factors, leading to less reliable predictions. |
| Impact | Solving this problem will provide policymakers, investors, and businesses with more accurate economic forecasts, enabling better decision-making and strategic planning. |
| **Proposed Solution** | |
| Approach | Utilize machine learning techniques, including data preprocessing, feature engineering, and model training. Implement algorithms like linear regression, random forests, and neural networks to build and evaluate the model. |
| Key Features | * Integration of diverse datasets encompassing economic, social, and demographic variables. * Use of advanced machine learning algorithms for improved accuracy. * User-friendly interface for easy access to predictions and insights. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | 2 x NVIDIA V100 GPUs |
| Memory | RAM specifications | 32 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Flask |
| Libraries | Additional libraries | Scikit-learn, pandas, numpy, Tensorflow/Keras |
| Development Environment | IDE, version control | e.g., Jupyter Notebook, Git |
| **Data** | | |
| Data | Source, size, format | World Bank and other economic databases, CSV format, 37.4 KB |