**Project Initialization and Planning Phase**

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| Date | 10 July 2024 |
| Team ID | 740004 |
| Project Title | Rising Waters: Machine Learning Approach To Flood Prediction |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | Develop a machine learning model to predict rising water levels and potential flood events. |
| Scope | Significant potential in mitigating flood damage, saving lives, and reducing economic losses. |
| **Problem Statement** | |
| Description | Predicting rising water levels and potential flood events to provide early warnings and improve disaster response. |
| Impact | Improved community safety, reduced property damage, better resource allocation for disaster management. |
| **Proposed Solution** | |
| Approach | Predictive modeling and pattern recognition. |
| Key Features | Predictive analytics, real-time monitoring, integration with weather data, and community alert systems. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | 12th Gen Intel® Core™ i7, 3.0 GHz, 8 cores |
| Memory | RAM specifications | 32 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | TensorFlow, Keras |
| Libraries | Additional libraries | numpy, pandas, scikit-learn, seaborn |
| Development Environment | IDE, version control | Jupyter Notebook, GitHub |
| **Data** | | |
| Data | Source, size, format | Historical flood data, meteorological data, CSV format, 100 GB |