**Team Contribution Report**

**Team Number: 08**  **SEA LEVEL RISE ANALYSIS**

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| No | Team Member Name | Contribution | % of credit |
| 1 | Varun Reddy | I scraped the data from relevant sources and handled missing values using mean and mode strategies, followed by feature engineering that included cyclical encoding for temporal features and extracting attributes like year, month, day, and hour. The dataset was split into training, validation, and testing sets to ensure robust model performance. I designed and evaluated models such as Decision Tree, Random Forest, XGBoost + Prophet Hybrid Model, LSTM + Dense Neural Network, and TCN and TCN-LSTM Hybrid Model, conducting hyperparameter tuning to optimize performance and documenting results with insights based on metrics like MSE and R². Seasonal and temporal analyses were performed using rolling statistics to analyze long-term trends and seasonal decomposition (STL) to identify trends, seasonality, and residual patterns, with summarized insights highlighting key findings. Additionally, I developed a Streamlit-based platform featuring interactive visualizations, dynamic model predictions, and a user-friendly interface, enabling stakeholders to explore tidal and sea-level data effectively. This end-to-end effort ensured a comprehensive and actionable understanding of the project's objectives and outcomes. | 100 |
| 2 | Tanvi Nimbalkar | I was responsible for drafting the technical report and the ACM paper, in which I focused on concise documentation of our methods and findings. I implemented and evaluated both Linear Regression Model and a Multi-Task Learning Model (Neural Network) to analyze sea-level and tidal data. Interpreted the results for the models, explaining their significance. | 100 |
| 3 | Dnyaneshwari Rakshe | I contributed to documenting the reports for all the milestones. Additionally, I implemented data analysis and developed the possible data visualizations during Milestone 2. I was also responsible for preparing the project final report in ACM format. | 100 |

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| No | Team Member’s Signature |
| 1 | Varun Reddy |
| 2 | Tanvi Nimbalkar |
| 3 | Dnyaneshwari Rakshe |

Date: 12/06/2024