

MILESTONE 4 – DFR3 – IDT8 – AI4M

MILESTONE DELIVERABLE: Documentation on AI4M Pilot Implementation

DELIVERABLE DESCRIPTION: This involves providing documentation on the processes that would be involved in the implementation of our AI model in a pilot project in collaboration with a healthcare provider or a humanitarian aid health agency.

The implementation of our AI4M model in a pilot project in collaboration with a healthcare provider or a humanitarian aid health agency will involve the following:

1. Project Planning and Stakeholder Engagement:

Needs Assessment: we will conduct a thorough assessment of the healthcare provider's or humanitarian aid agency's needs and priorities regarding malaria prevention and control.

Stakeholder Identification: we will then identify key stakeholders, including healthcare professionals, researchers, policymakers, and community representatives, to involve in the project.

2. Project Scope and Objectives:

Define Project Scope: We will clearly define the scope of our pilot project, including target demographics, geographic locations, and expected outcomes.

Set Objectives: We are keen on establishing measurable objectives for our pilot project, such as improving malaria prediction accuracy, enhancing response times, or reducing malaria-related morbidity and mortality rates.

3. Data Collection and Preparation:

Collaborative Data Gathering: We will collaborate with the healthcare providers and humanitarian aid agencies to gather in addition to our already existing data set, more data on factors related to malaria occurrence and prevalence.

Data Harmonization: We will then standardize and preprocess the collected data to ensure consistency and compatibility for model training and analysis.

4. Model Development and Training:

Algorithm Selection: We will select appropriate machine learning algorithms, such as logistic regression, decision trees, random forests, support vector machines, or neural networks, based on the nature of the data and project objectives.

Model Training: We will at this point, train our AI4M model using the prepared dataset, optimizing hyperparameters and conducting cross-validation to ensure robustness and generalization.

(These have been undertaken in previous deliverables but is to be included here as a base standard procedure)

5. Model Evaluation and Validation:

Performance Assessment: We will evaluate the performance of our AI model using validation techniques, such as cross-validation, and measure performance metrics such as accuracy, precision, recall, and F1-score.

Validation with Stakeholders: We will engage stakeholders in our validation process to gather feedback, ensure alignment with project objectives, and build trust in our model's capabilities.

6. Pilot Implementation:

Infrastructure Setup: We will deploy our AI4M model in a pilot environment, integrating it with existing healthcare systems or data pipelines *(a core component of our pilot process)*

User Training: We are keen on providing training sessions for healthcare professionals and other end-users on how to interact with and interpret the model's outputs effectively.

Pilot Rollout: We will initiate the pilot project rollout in collaboration with the healthcare provider or humanitarian aid agency, monitoring implementation progress and addressing any challenges or issues that arise.

7. Monitoring and Evaluation:

Performance Monitoring: We will continuously monitor the performance of the AI4M model in the pilot setting, tracking key performance indicators and soliciting feedback from stakeholders.

Outcome Evaluation: We will evaluate the impact of our pilot project on malaria prevention and control outcomes, such as changes in malaria incidence rates, response times, or healthcare resource utilization.

Iterative Improvement: We will ensure the utilization of insights gained from monitoring and evaluation to iterate and refine the AI4M model and project implementation processes for continuous improvement.

8. Documentation and Knowledge Sharing:

Project Documentation: We will document all aspects of the pilot project, including methodologies, findings, feedbacks and best practices.

Knowledge Sharing: We will share project outcomes and insights through reports, presentations, and workshops to contribute to our collective knowledge base and inform future malaria control efforts.

By meticulously adopting the aforementioned processes, the implementation of our AI4M model in a pilot project can effectively leverage machine learning techniques to enhance malaria prediction and control efforts, ultimately improving public health outcomes in collaboration with healthcare providers or humanitarian aid agencies.