Evaluation of an Artificial Intelligence-based prediction model for identifying causes of Acute Febrile Illness

Graphical Abstract/ Layout

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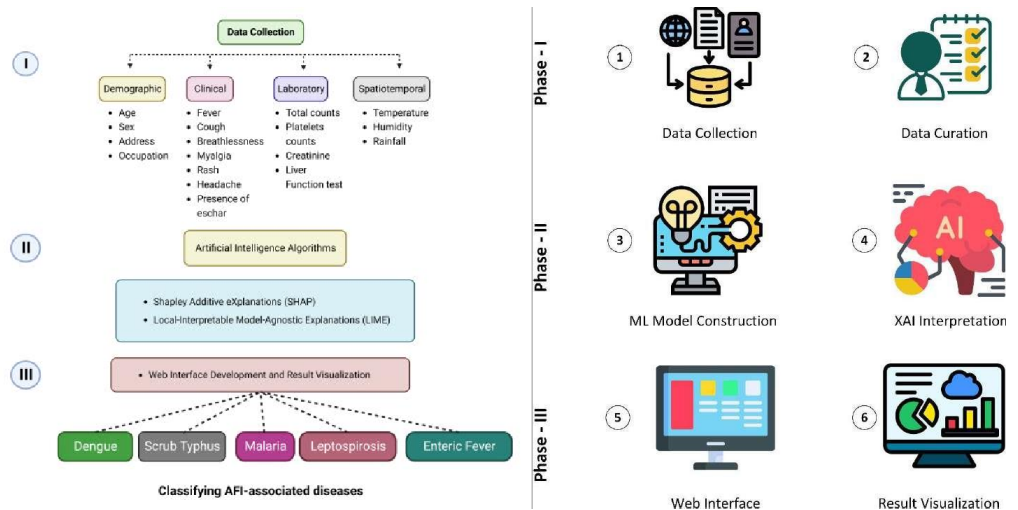Associate Professor Sr.
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Project Description:

Acute febrile illness is a medical condition characterized by the sudden onset of fever, often accompanied by other symptoms such as headache, fatigue, muscle aches, and respiratory symptoms. The causes of acute febrile illness vary, including bacterial, viral, parasitic, or fungal infections. Some examples of acute febrile illnesses include influenza, dengue fever, malaria, and typhoid fever. The novelty of this project aims to develop a web-based AI-assisted AFI disease diagnosis tool to aid clinicians in accurate assessment. It is intended to accurately classify the family of AFI-associated diseases: Dengue, Scrub Typhus, Malaria, Enteric Fever, and Leptospirosis. This cost-effective framework will be built based on the data collected through laboratory investigations, spatial-temporal, clinical data, and topographical information. The study aims to develop an explainable AI model using SHAP and LIME algorithms. To deploy the pre-trained model as an application to differentiate the AFI cluster of disease types. To construct a computer-aided disease diagnosis tool for model training, prediction, and data storage. The expected outcome is an AI model for predicting and interpreting the diseases categorized under acute febrile illness. Then, a web interface will enter the clinical information with minimal representations. And database for storing the live reports of the cases to be used for future model 3 training and evaluation.