Explainable Artificial Intelligence Framework using Deep Learning Neural Network and Machine Learning Algorithms for Epidemiological Prediction and Analysis of Leprosy Transmission and Drug Resistance

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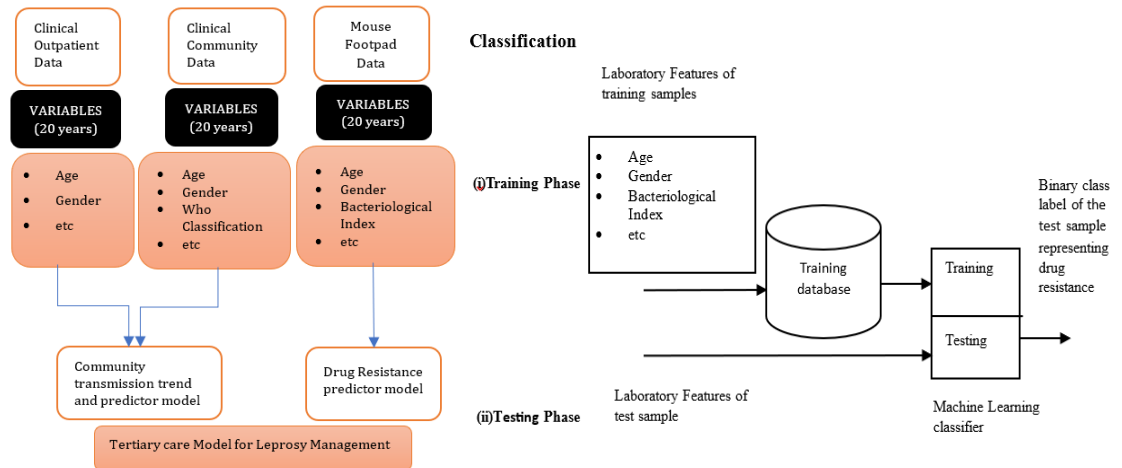(SIHR & LC)
Karigiri, Vellore

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Graphical Abstract

Project Description

Leprosy, a chronic infectious disease, is caused by an obligate intracellular pathogen- *Mycobacterium leprae* (*M. leprae*). Although the prevalence of this disease has significantly gone down after the introduction of the WHO regimen of Multi-drug Therapy (MDT), the incidence remains a constant peril.

AI algorithms are valuable resources that can help in predicting leprosy transmission trends, analysing the factors that influence transmission, identifying whether the diseased is drug resistant or not and understanding the factors that lead to drug resistance.

The outcome of the research project is to provide a better understanding on the mode of transmission of leprosy and drug resistance in the diseased which might help to curb the resultant stability in the annual new case detection rates in endemic situations and to plan early treatment.

Experiments and Outreach Activities

Sponsored Research and Industrial Consultancy (SpoRIC)