Pattern Recognition in Dengue Disease

H.M.K.V. Jayaratne, S.H.D. Senanayake
Department of Computer Science and Technology Uva Wellassa University Badulla, Sri Lanka.

Data Mining is one of the most motivating areas of research that has become increasingly popular in health sector. It is a well-known technique used by health organizations for classification of diseases. It plays an important role for uncovering new trends in healthcare sector which in helpful for all the parties associated with this field. Dengue is a life threatening disease dominant in developed as well as under developing countries like Sri Lanka. This is a virus born disease caused by breeding ofAedes mosquito. Datasets that are available for dengue describe information about the patients suffering with dengue disease and without dengue disease along with their symptoms like: fever temperature, WBC, platelets, severe headache, vomiting, metallic taste, joint pain, appetite, and haemoglobin. In this research various algorithm approaches are discussed of data mining that have been utilized for dengue disease prediction. In the proposed approach WEKA data mining tool was used to evaluate data and compare results. In this research, the dengue data set was classified, pre-processed and then compared the different data mining techniques in WEKA through explorer interfaces. According to the four experiments, several patterns could be obtained from dengue patients' details about district, admitted date, gender, age and hospital. According to the first experiment, the probability compared to the Matara district dengue patients and Gampaha district children who suffered from dengue disease live in very high populated areas and are highly using base hospitals. That means they use hospitals like Lady Ridgeway children's Hospital or Infectious Diseases Hospital (IDH) because there are specific hospitals for children and dengue patients in those areas. So the parents live in Negombo and Kelaniya areas are aware of that. Also, there is a high probability of Gampaha district male dengue patients who are living in very high populated areas and age is 60 or above use base hospitals in the second quarter of the year.

Keywords: WEKA, WBC, Data Mining