

## **Fuzzy rules base system for early self-diagnosis of dengue symptoms**

### **ABSTRACT**

Dengue has become rapidly expanding and significant public health problem in tropical and subtropical regions. In severe cases, people infected with dengue may experience severe bleeding, shock and death. Thus, increasing dengue fever (DF) can be very serious, potentially life threatening and becoming global threat. Therefore, this research aimed to develop an accurate model that could better detect early signs and symptoms of dengue fever and develop a practical system for self-notification of the disease. Two techniques were applied to provide early self-notification to the patients namely the fuzzy expert system and data mining technique. The rules of dengue diagnosis are developed based on an interview with a medical doctor and those rules will be applied in an expert system using a fuzzy logic. However, before applying the extracted rules, the accuracy of rules was tested by data mining tool. This research applies the methodology to dengue related-data from a hospital and compares the rules to the training dataset by Multilayer Perceptron network. Furthermore, the finding showed that the accuracy of result for self-diagnosis of dengue symptoms produce a reliable result.

**Keyword:** Dengue; Data mining; Early detection; Fuzzy logic

