

The Study of Applying ANFIS on the Route Guidance of Emergency Management Systems

吳鎧佑、張隆池

E-mail: 9607648@mail.dyu.edu.tw

ABSTRACT

To make route guidance of ambulance effective, it is important that the system should be able to provide timely and correct traffic information to the ambulances. We propose an approach that utilizes the Adaptive Network-Based Fuzzy Inference Systems (ANFIS) to develop the Emergency Route Guidance Systems (ERGS) that combines with real-time traffic information. The ambulances make use of the vehicle navigation systems that are connected with an automatic calling system and crumple sensor to get to the traffic accident scene in time so that the traffic victims can have more opportunity to be survive. We have prototyped an ERGS system based on ANFIS approach. Our test case utilizes the peripheral topography of hospitals in Taichung. By revising every weight parameters of ANFIS, the result shows the average error rate is below 1%. Empirical results demonstrate the error rate can be extremely low, as long as our system is provided with real road information of this area.

Keywords : Real-Time traffic information ; Adaptive Network-Based Fuzzy Inference Systems ; Emergency Route Guidance Systems

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