A Study of the Different Uses of Colour Channels for Traffic Sign Recognition on Hierarchical Temporal Memory

Wim J.C. Melis and Michitaka Kameyama
Graduate School of Information Sciences, Tohoku University
6-6-05, Aoba, Aramaki, Aoba-ku
Sendai, 980-8579, JAPAN

Abstract

When designing intelligence for a car many different tasks can be performed. Some of these tasks cannot easily be performed by conventional algorithms in comparison with the human brain. Recently, such intelligence has often been reached by using probability based systems. In this paper, Hierarchical Temporal Memory (HTM) is used to implement one of these tasks, namely traffic sign recognition. In implementing this traffic sign recognition task, it is noticed that the use of colour is of particular importance, and that colour information should be treated in a particular way to optimise the recognition. However it is also noticed that there are still a significant number of differences between the modelling of the brain and how the brain actually deals with colour and object recognition.