Abstract

With the rising traffic congestion, an efficient method to control traffic and ensuring proper signalling has become very important. A number of methods are used worldwide to control and signal road traffic. We propose a method based on image processing to determine the density of vehicles on a particular lane of a road and control the signal accordingly. For each road crossing, screenshots will be taken from live feeds to determine the traffic density of a road and then based on an efficient fuzzy logic based edge detector; a comparative analysis of traffic density will be performed. Traffic signalling will be done so as to ensure that the busiest road gets the green signal at the earliest and for the longest duration. The second busiest road will get the green signal next and for a lesser duration. Signalling of other roads will be done accordingly. We have utilised a fuzzy rule based edge detection algorithm which is accurate and efficient.

References

- Gonzalez, R. C., and Woods, R. E., Digital Image Processing, Addison- Wesley,
- G. Mansoori and H. Eghbali, "Heuristic edge detection using fuzzy rule-based

Index Terms

Computer Science
Fuzzy Systems

Keywords

Edge Detection  Sliding Window Based Detector  Fuzzy logic  Traffic Control
Fuzzy Sets.