

ABSTRACT

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Designing a Traffic Light Simulation System Using Fuzzy Logic

(xii + 101 pages: 49 figures; 29 tables; 1 appendix)

Fuzzy logic is a method for solving problems with logical expression according to the membership in fuzzy sets. One problem processed in more than one fuzzy rule depends on the membership value and get the more precise solution. Designing Building a traffic light simulation system using fuzzy logic is one of the applications that use fuzzy logic to get better performance. With fuzzy logic, the interval time of green light can vary according to the numbers of vehicle in each road.

Designing a traffic light simulation is done by choosing the fuzzy method used, determining the fuzzy rules used, determining the algorithm and flowchart for the simulation, programming the simulation with Visual Basic 6.0, and analysing the performance of traffic light within the fuzzy rules applied.

Traffic light simulation using fuzzy logic can arrange the flow of the traffic in each road. The heavy traffic gets more green light interval time than the light traffic. The traffic light simulation using fuzzy logic also can reduce the possibility of traffic jam happened in each road.

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