

ABSTRACT

The monitoring system is one of the most important steps in conducting surveillance. The uses of sensor which can sense and have signal acquisition with a capability of computing and communicating with other devices called Wireless Sensor Network (WSN) are needed. The optimization of WSN became an important aspect for choosing movement path for mobile agent from nodes because it has limited lifetime. On layer network, path choosing for collecting data to sink node became the most effective way to maximize the lifetime of network. Cross Entropy (CE) algorithm chosen to decide which path mobile agent should use in wireless sensor Network. CE is compared to Genetic Algorithm (GA) and Simulated Annealing (SA), based on experiment, CE shows high latency but with best solution.

Keyword : *Wireless Sensor Network, Mobile Agent, Cross Entropy*