On some algorithms behavior of finite automata

Tariel Khvedelidze
tariel.Khvedelidze@tsu.ge
Department of Computer Sciences
Faculty of Exact and Natural Sciences
Iv. Javakhishvili Tbilisi State University
13, University st., 0186, Tbilisi, Georgia

On the basis of the known statistical rule "or a series of success of length m, or a series of setbacks of length l " built structure of finite automata in stationary random environment with three possible reactions (win, loss, indifference). By methods theory of random walk obtained the formulas for of the generating function probabilities of changing actions of automata. It is shown that sequence finite automata converges to the corresponding infinite (with countably many states) automatons of the same structure and investigated expediency of their behavior.