Title: A HIDDEN MARKOV MODEL WITH CLUSTER FUNCTION ON REALTIME ANALYSIS FOR BACKGAMMON GAME

Authors: SONNY IAN G. BETARMOS MARIE CARL II CASTRO CHRISTIAN RAY T. SERRANO

EXECUTIVE SUMMARY

The proposed research will make a versatile AI agent by using the environment of the two algorithms which is the Hidden Markov Model and Cluster Function. In the board game Backgammon, there are multiple possible results of the dice, which is randomly chosen from 36 possible combinations, the more the significance the AI agent use to predict, the more center points will be sifted exponentially, consequently. Explicit state span demonstrating in the HMM has been grown yet it isn't adequate for displaying the inherently unique, or nonstationary, change process. Nevertheless, most research endeavors have been concerned with only within-state non-stationarity, variable state span and regional symbol correlation. To counter this issue, the researchers consolidate the Cluster Function to Hidden Markov Model to improve its data processing and to show that the proposed algorithms are compelling for the reenacted AI agent to use in Backgammon than Hidden Markov Model alone. The researchers by then amassed data by playing two rounds of Backgammon in 2 particular processors wherein each round, expert represents ten moves in each testing. With these sorts of tests, the researchers are prepared to assume that Cluster Function lessens adjusting time and data processing will be done proficiently.

Keywords: Hidden Markov Algorithm, Cluster Function, Real-Time Analysis