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Cyrus F Nourani* (acdmkrd@gmail.com), PO Box, 190762, & SFU Burnaby, BC, Canada, San Francisco, CA 94119, and **Oliver Schulte** (o.schulte@cs.sfu.ca), Burnaby, BC, Canada.

Competitive Models, Descriptive Computing, and Nash Games. Preliminary report.

A novel competitive learning with game tree computing techniques are developed on a descriptive game logic where model compatibility is characterized on von Neumann, Morgenstern, Kuhn game descriptions model embeddings. Encodings with a VMK game function situations on computable partition functions allow us to characterize embedded measures on discrete topologies and homotopy on game models. Novel payoff criteria on game trees and game topologies are obtained. Theorem A game tree is solved at a node iff there is an elementary embedding on the generic diagrams, sequentially upward to the node, corresponding to VMK played at the node, that solves the root node.

Theorem Let A be a set of actions, and let $u: B(A) \rightarrow \mathbb{R}$ be a continuous function. The u satisfies a payoff axiom iff there is an elementary embedding on the generic diagrams for M , sequentially upward to the node, corresponding to VMK played at the node that solves the root node. state is for a player.

Proposition A matrix game reaches a Nash equilibrium when all the player corresponding model diagram rows are defined and at least one player accomplishes the goal set(s). (Received November 28, 2012)