

1145-VT-1175      **David A Nash\*** ([nashd@lemoyne.edu](mailto:nashd@lemoyne.edu)), 1419 Salt Springs Rd, Syracuse, NY 13214, and **Shaun Ceci**. *Markov Plays Prime Climb*.

Markov Chains have been used previously to study probabilistic games which are deterministic in nature and whose players play effectively independently (games such as Chutes and Ladders, Hi-ho Cherry-o, etc.). The independence allows one to calculate the average length of a game by focusing on the play of a single player. Here we apply similar techniques to study the more complicated games Trouble and Prime Climb which are both non-deterministic and contain simple player interactions. For Prime Climb specifically, we iterate these techniques in an effort to determine an optimal strategy for a single player. (Received September 19, 2018)