

1135-B1-1034      **Sheldon H Jacobson\*** (shj@illinois.edu), 201 n. goodwin avenue MC258, Urbana, IL 61801-2302, and **Douglas M King** (dmking@illinois.edu) and **Arash Khtaibi** (khatibi2@illinois.edu). *Bits and Bytes in March Madness*.

There are 67 games (four in the First Four and 63 in the main bracket) that are played during the NCAA Division I Men's Basketball Championship Tournament (also known as March Madness). The structure of the main bracket allows one to represent the outcome of these games using a 63 bit string. Our research does not attempt to predict the outcome of each such game, but rather, uses this 63 bit representation to generate sets of brackets based on the historical patterns (since 1985) observed in these 63 bit strings. Since this is done without any knowledge of the teams in the tournament, most of the brackets in the sets are not particularly close to the actual outcome. However, numerical experiments suggest that, when the number of brackets in the set is comparable to the number of brackets submitted to the ESPN Bracket Challenge (approximately ten million brackets), these bit string generators often produce "bracket nuggets" that would rank among the ESPN Top 100 brackets, and sometimes produce brackets that would rank first among the ESPN Top 100 brackets. We reports results of this approach for several recent tournaments, and compare these "bracket nuggets" to the best scores reported in the ESPN Bracket Challenge. (Received September 18, 2017)