



Road to the First Perfect Bracket

By Gabe Llosa

Why has it not been done?

1 in 9.2 quintillion odds

Many upsets and unpredictable games

No computer can hold the amount of data (over 80,000

Parabytes)

Must use a brute force attack



Methodology

Brute force attack

Create multiple randomized randomized brackets

Every matchup starts with 50/50 odds

Include many factors: difficulty of regular season schedule, seeding,

Statistics, and location of game

This narrows down the pool





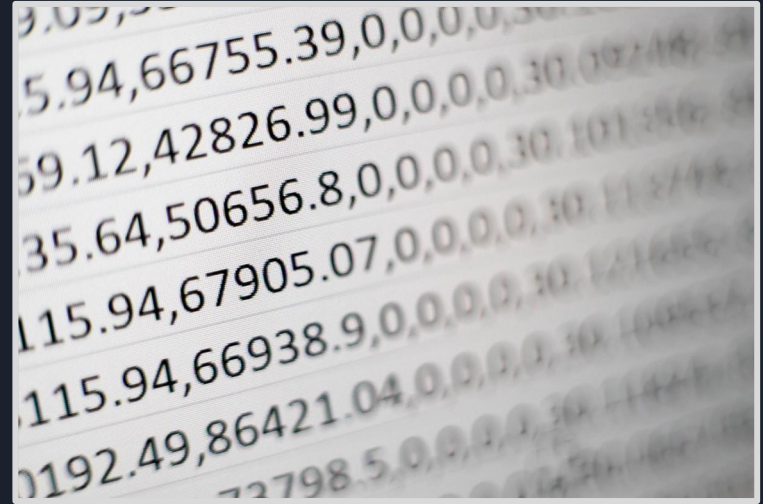
Research done by coders

South Dakota school study

Used historical data

Upsets helped the modeling

Data points added for every upset



A blurred image of a data table with numerical values and commas, likely representing the historical data used in the study. The data is organized into rows and columns, with some values appearing to be decimal numbers and others integers. The text is tilted and out of focus, but some legible fragments include:

5.94,66755.39,0,0,0,0,30
59.12,42826.99,0,0,0,0,30
35.64,50656.8,0,0,0,0,30
115.94,67905.07,0,0,0,0,30
115.94,66938.9,0,0,0,0,30
192.49,86421.04,0,0,0,0,30
72798.5,0,0,0,0,30

Example code

Java Script

Arrays, conditions, booleans

Recursive functions, append

```
1  const fs = require('fs');
2  const ohash = require('object-hash');
3  const d3 = require('d3-dsv');
4
5  // this is a simple array of the 64 teams identified by name, seed, conference .
6  let teams = d3.csvParse(fs.readFileSync('./data/teams_2019.csv', 'utf8'));
7
8  // ... and a unique ID from 0 to 63
9  teams.forEach((d, i) => {
10 d.seed = +d.seed;
11 d.id = i;
12 });
13
14 // this is a flat array of the 63 games with ids linking to previous and next ga
15 let blank = require('./data/bracket.json');
16
17 let ticker = 0; // counts brackets calculated, including via recursion
18
19 let csvKeys = Object.keys(blank);
20 csvKeys.unshift("winner");
21 csvKeys.unshift("hash");
22
23 // we'll append to the csv file with each run in case we get interrupted, but or
24 if (!fs.existsSync('./brackets/brackets.csv')) {
25 fs.appendFileSync('./brackets/brackets.csv', csvKeys.join(",") + "\n");
26 }
27
28 let hash_table = {}; // check for dupes
```

2017 NCAA TOURNAMENT BRACKET



Citations

<https://time.com/5555948/march-madness-brackets-perfect/>
<https://www.blackhillsfox.com/2021/03/18/computer-science-students-using-advanced-technique-to-pick-march-madness-games/>
<https://www.linuxjournal.com/content/building-march-madness-bracket-php-0>
<https://www.sportsnet.ca/ncaa-mens-basketball/article/march-madness-cheat-sheet-stats-and-figures-to-know-before-filling-out-a-bracket/>
<https://github.com/adeshpande3/March-Madness-ML>