

# CSC2541: Sports Analytics (Challenge 3: March Madness)

February 26, 2017

Each March, 64 USA college basketball teams from Division I level of the National Collegiate Athletic Association (NCAA) compete in a single elimination tournament until a champion is emerged. This tournament is called March Madness or the Big Dance. A greatly exciting aspect of the tournament is that people around the world make predictions of the outcomes, fill brackets and participate in friends or office pools and win money and most importantly bragging rights.

Your goal for this challenge is to predict the winning teams at every level of the tournament by using machine learning techniques. A 2016 filled bracket would have look like this:

NCAA® MARCH MADNESS® BRACKET CHALLENGE

  

Second Round March 19-21	Third Round March 20-22	Regional Semifinals March 26-27	Regional Finals March 28-29	National Semifinals April 4	National Semifinals April 4	Regional Finals March 28-29	Regional Semifinals March 26-27	Third Round March 20-22	Second Round March 19-21
<div style="border: 1px solid black; padding: 2px;">1 Kansas</div> <div style="border: 1px solid black; padding: 2px;">16 Austin Peay</div> <div style="border: 1px solid black; padding: 2px;">8 Colorado</div> <div style="border: 1px solid black; padding: 2px;">9 UConn</div> <div style="border: 1px solid black; padding: 2px;">5 Maryland</div> <div style="border: 1px solid black; padding: 2px;">12 South Dakota St.</div> <div style="border: 1px solid black; padding: 2px;">4 California</div> <div style="border: 1px solid black; padding: 2px;">13 Hawaii</div> <div style="border: 1px solid black; padding: 2px;">6 Arizona</div> <div style="border: 1px solid black; padding: 2px;">11 Vanderbilt</div> <div style="border: 1px solid black; padding: 2px;">3 Miami (FL)</div> <div style="border: 1px solid black; padding: 2px;">14 Buffalo</div> <div style="border: 1px solid black; padding: 2px;">7 Iowa</div> <div style="border: 1px solid black; padding: 2px;">10 Temple</div> <div style="border: 1px solid black; padding: 2px;">2 Villanova</div> <div style="border: 1px solid black; padding: 2px;">15 UNC Asheville</div>	<div style="border: 1px solid black; padding: 2px;">1 Kansas</div> <div style="border: 1px solid black; padding: 2px;">9 UConn</div> <div style="border: 1px solid black; padding: 2px;">5 Maryland</div> <div style="border: 1px solid black; padding: 2px;">13 Hawaii</div> <div style="border: 1px solid black; padding: 2px;">6 Arizona</div> <div style="border: 1px solid black; padding: 2px;">3 Miami (FL)</div> <div style="border: 1px solid black; padding: 2px;">2 Villanova</div> <div style="border: 1px solid black; padding: 2px;">1 Oregon</div> <div style="border: 1px solid black; padding: 2px;">8 St. Joseph's</div> <div style="border: 1px solid black; padding: 2px;">9 Cincinnati</div> <div style="border: 1px solid black; padding: 2px;">5 Baylor</div> <div style="border: 1px solid black; padding: 2px;">12 Yale</div> <div style="border: 1px solid black; padding: 2px;">4 Duke</div> <div style="border: 1px solid black; padding: 2px;">13 UNCW</div> <div style="border: 1px solid black; padding: 2px;">6 Texas</div> <div style="border: 1px solid black; padding: 2px;">11 UNI</div> <div style="border: 1px solid black; padding: 2px;">3 Texas A&amp;M</div> <div style="border: 1px solid black; padding: 2px;">14 Green Bay</div> <div style="border: 1px solid black; padding: 2px;">7 Oregon St.</div> <div style="border: 1px solid black; padding: 2px;">10 VCU</div> <div style="border: 1px solid black; padding: 2px;">2 Oklahoma</div> <div style="border: 1px solid black; padding: 2px;">15 Bakersfield</div>	<div style="border: 1px solid black; padding: 2px;">1 Kansas</div> <div style="border: 1px solid black; padding: 2px;">5 Maryland</div> <div style="border: 1px solid black; padding: 2px;">3 Miami (FL)</div> <div style="border: 1px solid black; padding: 2px;">7 Iowa</div> <div style="border: 1px solid black; padding: 2px;">8 St. Joseph's</div> <div style="border: 1px solid black; padding: 2px;">4 Duke</div> <div style="border: 1px solid black; padding: 2px;">3 Texas A&amp;M</div> <div style="border: 1px solid black; padding: 2px;">2 Oklahoma</div>	<div style="border: 1px solid black; padding: 2px;">5 Maryland</div> <div style="border: 1px solid black; padding: 2px;">3 Miami (FL)</div> <div style="border: 1px solid black; padding: 2px;">4 Duke</div> <div style="border: 1px solid black; padding: 2px;">3 Texas A&amp;M</div>		<div style="border: 1px solid black; padding: 2px;">1 North Carolina</div> <div style="border: 1px solid black; padding: 2px;">3 West Virginia</div> <div style="border: 1px solid black; padding: 2px;">5 Maryland</div> <div style="border: 1px solid black; padding: 2px;">1 Virginia</div> <div style="border: 1px solid black; padding: 2px;">3 West Virginia</div> <div style="border: 1px solid black; padding: 2px;">1 Virginia</div> <div style="border: 1px solid black; padding: 2px;">5 Purdue</div> <div style="border: 1px solid black; padding: 2px;">13 Iona</div> <div style="border: 1px solid black; padding: 2px;">6 Seton Hall</div> <div style="border: 1px solid black; padding: 2px;">2 Michigan St.</div>	<div style="border: 1px solid black; padding: 2px;">1 North Carolina</div> <div style="border: 1px solid black; padding: 2px;">13 Stony Brook</div> <div style="border: 1px solid black; padding: 2px;">5 Indiana</div> <div style="border: 1px solid black; padding: 2px;">13 Stony Brook</div> <div style="border: 1px solid black; padding: 2px;">3 West Virginia</div> <div style="border: 1px solid black; padding: 2px;">2 Xavier</div> <div style="border: 1px solid black; padding: 2px;">10 Pittsburgh</div> <div style="border: 1px solid black; padding: 2px;">2 Xavier</div> <div style="border: 1px solid black; padding: 2px;">1 Virginia</div> <div style="border: 1px solid black; padding: 2px;">5 Purdue</div> <div style="border: 1px solid black; padding: 2px;">13 Iona</div> <div style="border: 1px solid black; padding: 2px;">6 Seton Hall</div> <div style="border: 1px solid black; padding: 2px;">2 Michigan St.</div>	<div style="border: 1px solid black; padding: 2px;">1 North Carolina</div> <div style="border: 1px solid black; padding: 2px;">9 Providence</div> <div style="border: 1px solid black; padding: 2px;">6 Notre Dame</div> <div style="border: 1px solid black; padding: 2px;">3 West Virginia</div> <div style="border: 1px solid black; padding: 2px;">7 Wisconsin</div> <div style="border: 1px solid black; padding: 2px;">10 Pittsburgh</div> <div style="border: 1px solid black; padding: 2px;">2 Xavier</div> <div style="border: 1px solid black; padding: 2px;">1 Virginia</div> <div style="border: 1px solid black; padding: 2px;">9 Butler</div> <div style="border: 1px solid black; padding: 2px;">5 Purdue</div> <div style="border: 1px solid black; padding: 2px;">13 Iona</div> <div style="border: 1px solid black; padding: 2px;">6 Seton Hall</div> <div style="border: 1px solid black; padding: 2px;">3 Utah</div> <div style="border: 1px solid black; padding: 2px;">10 Syracuse</div> <div style="border: 1px solid black; padding: 2px;">2 Michigan St.</div>	<div style="border: 1px solid black; padding: 2px;">1 North Carolina</div> <div style="border: 1px solid black; padding: 2px;">16 Fla. Gulf Coast</div> <div style="border: 1px solid black; padding: 2px;">8 Southern California</div> <div style="border: 1px solid black; padding: 2px;">9 Providence</div> <div style="border: 1px solid black; padding: 2px;">5 Indiana</div> <div style="border: 1px solid black; padding: 2px;">12 Chattanooga</div> <div style="border: 1px solid black; padding: 2px;">4 Kentucky</div> <div style="border: 1px solid black; padding: 2px;">13 Stony Brook</div> <div style="border: 1px solid black; padding: 2px;">6 Notre Dame</div> <div style="border: 1px solid black; padding: 2px;">11 Michigan</div> <div style="border: 1px solid black; padding: 2px;">3 West Virginia</div> <div style="border: 1px solid black; padding: 2px;">14 Stephen F. Austin</div> <div style="border: 1px solid black; padding: 2px;">7 Wisconsin</div> <div style="border: 1px solid black; padding: 2px;">10 Pittsburgh</div> <div style="border: 1px solid black; padding: 2px;">2 Xavier</div> <div style="border: 1px solid black; padding: 2px;">15 Weber St.</div> <div style="border: 1px solid black; padding: 2px;">1 Virginia</div> <div style="border: 1px solid black; padding: 2px;">16 Hampton</div> <div style="border: 1px solid black; padding: 2px;">8 Texas Tech</div> <div style="border: 1px solid black; padding: 2px;">9 Butler</div> <div style="border: 1px solid black; padding: 2px;">5 Purdue</div> <div style="border: 1px solid black; padding: 2px;">12 Little Rock</div> <div style="border: 1px solid black; padding: 2px;">4 Iowa St.</div> <div style="border: 1px solid black; padding: 2px;">13 Iona</div> <div style="border: 1px solid black; padding: 2px;">6 Seton Hall</div> <div style="border: 1px solid black; padding: 2px;">11 Gonzaga</div> <div style="border: 1px solid black; padding: 2px;">3 Utah</div> <div style="border: 1px solid black; padding: 2px;">14 Fresno St.</div> <div style="border: 1px solid black; padding: 2px;">7 Dayton</div> <div style="border: 1px solid black; padding: 2px;">10 Syracuse</div> <div style="border: 1px solid black; padding: 2px;">2 Michigan St.</div> <div style="border: 1px solid black; padding: 2px;">15 Middle Tenn.</div>	

Watch the tournament on these networks or online at: [NCAA.COM/MARCHMADNESS](http://NCAA.COM/MARCHMADNESS)

Besides bragging rights, there will be multiple awesome prizes involved.

For a comprehensive overview of March Madness, please refer to the following [Wikipedia article](#) or the [NCAA website](#).

## 1 Contest

We have created a private group on Yahoo! Fantasy website where you can submit your bracket. You can register your team by clicking [here](#).

The 64 teams will be announced on March 12th. The deadline to submit your bracket is **March 15th 11:59 pm eastern time**.

You can use any machine learning technique and data you like. A great source of info and ideas on machine learning techniques for this challenge is UofT ML alumni Danny Tarlow's [blog](#).

## 2 Scoring

The brackets will be scored using the exponential point scoring system of 1, 2, 4, 8, 16 and 32 points for a correct pick depending on the stage of the competition.

## 3 Prizes

We will give prizes to the top 3 winning teams. There will also be a prize for the most innovative submission.

## 4 Submission

A report (paper format) should be submitted explaining what you have done. A presentation will be given in class as well.