

# 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
<b>1 Kansas</b> 16 Austin Peay <b>8 Colorado</b> <b>9 UConn</b>	<b>1 Kansas</b> 9 UConn	<b>1 Kansas</b> <b>5 Maryland</b>	<b>5 Maryland</b> 3 Miami (FL)	<b>5 Maryland</b> 3 Texas A&M	<b>5 Maryland</b> 1 Virginia	<b>3 West Virginia</b> 1 Virginia	<b>1 North Carolina</b> 13 Stony Brook	<b>1 North Carolina</b> 9 Providence	<b>1 North Carolina</b> 16 Fla. Gulf Coast <b>8 Southern California</b> <b>9 Providence</b>
<b>5 Maryland</b> 12 South Dakota St. 4 California <b>13 Hawaii</b> <b>6 Arizona</b> 11 Vanderbilt <b>3 Miami (FL)</b> 14 Buffalo	<b>5 Maryland</b> 13 Hawaii <b>6 Arizona</b> 6 Arizona <b>3 Miami (FL)</b> 2 Villanova	<b>3 Miami (FL)</b> 7 Iowa	<b>3 Miami (FL)</b> 7 Iowa	<b>3 West Virginia</b> 2 Xavier	<b>3 West Virginia</b> 2 Xavier	<b>3 West Virginia</b> 2 Xavier	<b>6 Notre Dame</b> 11 Michigan <b>3 West Virginia</b> 14 Stephen F. Austin	<b>5 Indiana</b> 12 Chattanooga 4 Kentucky <b>13 Stony Brook</b> <b>6 Notre Dame</b> 11 Michigan <b>3 West Virginia</b> 14 Stephen F. Austin	<b>5 Indiana</b> 12 Chattanooga 4 Kentucky <b>13 Stony Brook</b> <b>6 Notre Dame</b> 11 Michigan <b>3 West Virginia</b> 14 Stephen F. Austin
<b>7 Iowa</b> 10 Temple <b>2 Villanova</b> 15 UNC Asheville	<b>7 Iowa</b> 2 Villanova	<b>7 Iowa</b> 2 Villanova	<b>7 Iowa</b> 2 Villanova	<b>7 Wisconsin</b> 10 Pittsburgh <b>2 Xavier</b>	<b>7 Wisconsin</b> 10 Pittsburgh <b>2 Xavier</b>	<b>7 Wisconsin</b> 10 Pittsburgh <b>2 Xavier</b>	<b>10 Pittsburgh</b> <b>2 Xavier</b>	<b>7 Wisconsin</b> 10 Pittsburgh <b>2 Xavier</b>	<b>7 Wisconsin</b> 10 Pittsburgh <b>2 Xavier</b>
<b>1 Oregon</b> 16 Holy Cross <b>8 St. Joseph's</b> 9 Cincinnati 5 Baylor <b>12 Yale</b> 4 Duke 13 UNCW	<b>1 Oregon</b> 8 St. Joseph's 12 Yale 4 Duke	<b>8 St. Joseph's</b> 4 Duke	<b>4 Duke</b> 3 Texas A&M	<b>4 Duke</b> 3 Texas A&M	<b>1 Virginia</b> 6 Seton Hall	<b>1 Virginia</b> 6 Seton Hall	<b>1 Virginia</b> 9 Butler <b>5 Purdue</b> 13 Iona	<b>1 Virginia</b> 16 Hampton 8 Texas Tech <b>9 Butler</b> <b>5 Purdue</b> 12 Little Rock 4 Iowa St. <b>13 Iona</b>	
<b>6 Texas</b> 11 UNI <b>3 Texas A&amp;M</b> 14 Green Bay 7 Oregon St. <b>10 VCU</b> <b>2 Oklahoma</b> 15 Bakersfield	<b>6 Texas</b> 3 Texas A&M 2 Oklahoma	<b>3 Texas A&amp;M</b> 2 Oklahoma	<b>3 Texas A&amp;M</b> 2 Oklahoma	<b>6 Seton Hall</b> 3 Utah <b>6 Seton Hall</b> 2 Michigan St.	<b>6 Seton Hall</b> 3 Utah <b>6 Seton Hall</b> 2 Michigan St.	<b>6 Seton Hall</b> 3 Utah <b>6 Seton Hall</b> 2 Michigan St.	<b>6 Seton Hall</b> 3 Utah <b>6 Seton Hall</b> 2 Michigan St.	<b>6 Seton Hall</b> 11 Gonzaga <b>3 Utah</b> 14 Fresno St. 7 Dayton <b>10 Syracuse</b> <b>2 Michigan St.</b> 15 Middle Tenn.	

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

\*ALL TIMES EASTERN\*  
 \*On March 16, the NCAA Division I Men's Basketball Committee will assign eight teams to play the first-round games on March 18 and 19 in Dayton. The four winning teams will advance to a second-round game to be determined by the committee during selection weekend.  
 Second-round and third-round and regional sites will be shared by the bracket by the NCAA Division I Men's Basketball Committee March 16.  
 March 20 and 22 second-round sites: Buffalo, Milwaukee, Olathe, Spokane. March 21 and 23 second-round sites: Raleigh, San Antonio, San Diego, St. Louis.  
 March 27 and 28 regional sites: Syracuse, Peoria. March 28 and 29 regional sites: Indianapolis, New York.

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.