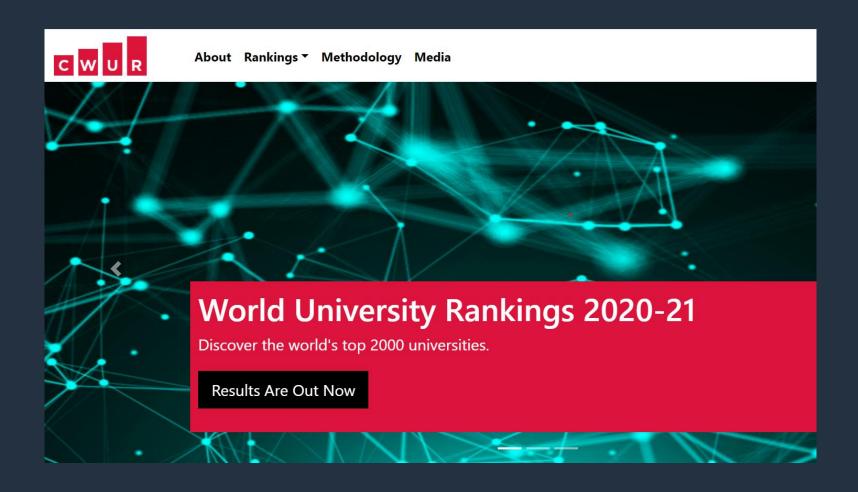
#### Final Project 2 Presentation

#### **Exploratory Data Analysis on CWUR Rankings**



## What is the data about?





# 8 Objectives and Robust Indicators to rank

- 1) Quality of Education, measured by the number of a university's alumni who have won major international awards, prizes, and medals relative to the university's size [25%]
- 2) Alumni Employment, measured by the number of a university's alumni who currently hold CEO positions at the world's top companies relative to the university's size [25%]
- 3) Quality of Faculty, measured by the number of academics who have won major international awards, prizes, and medals [25%]
- 4) Publications, measured by the number of research papers appearing in reputable journals [5%]
- 5) Influence, measured by the number of research papers appearing in highly-influential journals [5%]
- 6) Citations, measured by the number of highly-cited research papers [5%]
- 7) Broad Impact, measured by the university's h-Index [5%]
- 8) Patents, measured by the number of international patent filings [5%]



## Data understanding and exploration

Import the necessary modules to manipulate the data

Knowing the components of the cwurData.csv file

Most of the information in the csv file are complete and only the broad impact has missing values in year 2012 and 2013

Replacing Missing data under broad impact with the mean of the column

### Country with most number of Universities within top 100 of world\_rank

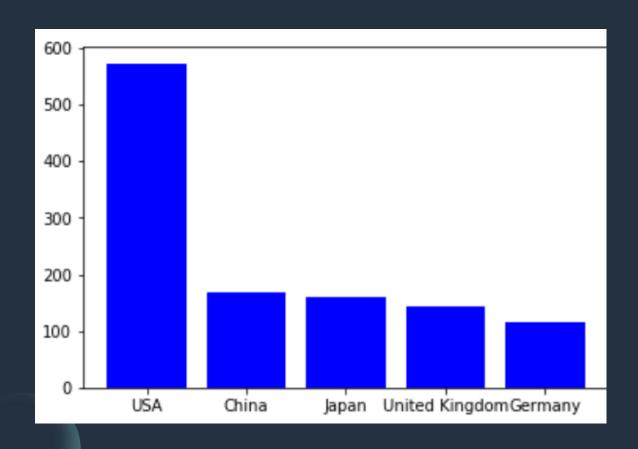
	country	count_100	
54	USA	573	
8	China	167	
28	Japan 15		
57	United Kingdom	om 144	
18	Germany	y 115	
17	France	109	
27	Italy 96		
48	Spain 81		
47	South Korea 72		
6	Canada 72		



## % Composition of Top 10 Countries

	country	count_100	%_composition
54	USA	573	36.083123
8	China	167	10.516373
28	Japan	159	10.012594
57	United Kingdom	144	9.068010
18	Germany	115	7.241814
17	France	109	6.863980
27	Italy	96	6.045340
48	Spain	81	5.100756
47	South Korea	72	4.534005
6	Canada	72	4.534005

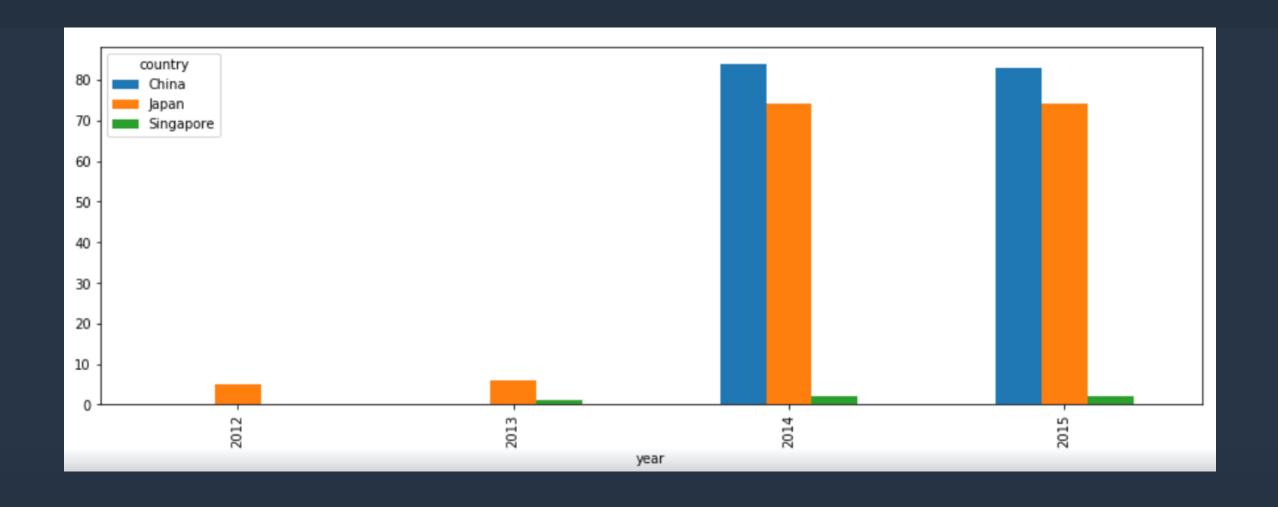
## Graph of the Top 5 Countries



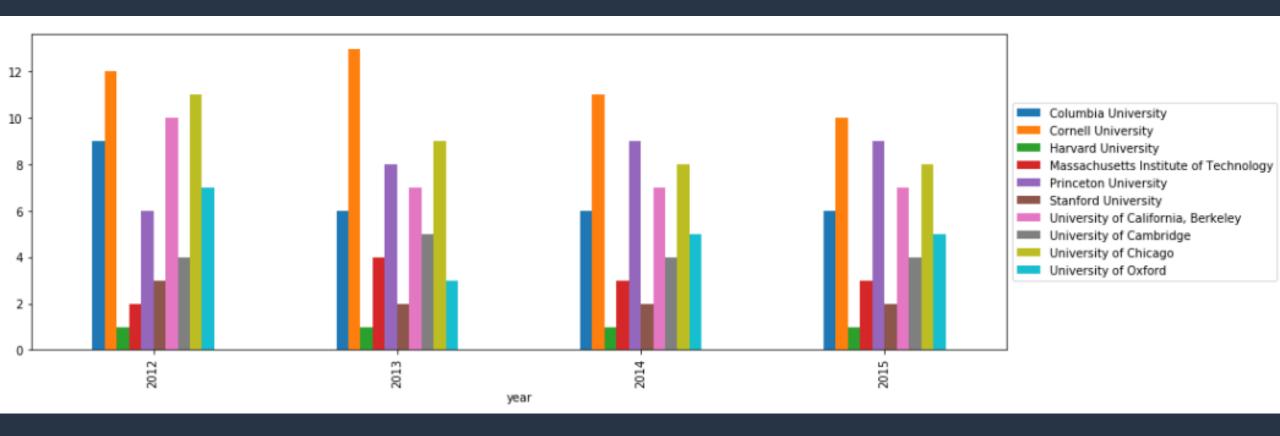
# Year and Country of count top 100 Universities

	year	country	count_top100	
14	2012	USA	58	
15	2012	United Kingdom	8	
4	2012	France	5	
8	2012	Japan	5	
6	2012	Israel	4	
135	2015	Serbia	1	
137	2015	Slovak Republic	1	
148	2015	Uganda	1	
149	2015	United Arab Emirates	1	
151	2015	Uruguay	1	
152 rows × 3 columns				

#### Chart of count of top 100 universities for Japan, China and Singapore



#### Trend for Top 10 universities throughout the years

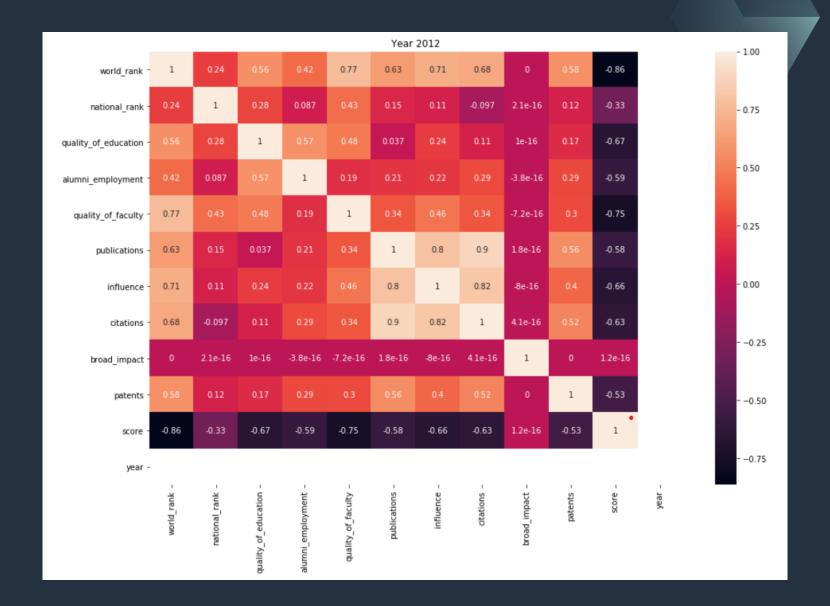


## Impact of Different Factors on World\_Rank



Factors	<b>Correlation Score</b>
Impact of Score	-0.5490983815855411
Impact of Influence	0.8958708318940485
Impact of Citations	0.8565731350030968
Impact of Quality of Faculty	0.6564058264715122
Impact of Quality of Education	0.676165823878376

- 1<sup>st</sup> Quality of Faculty
- 2<sup>nd</sup> Influence
- 3<sup>rd</sup> Citation



- 1st Quality of Faculty
- 2<sup>nd</sup> Influence
- 3<sup>rd</sup> Citation



- 1st Broad Impact
- 2<sup>nd</sup> Publications
- 3<sup>rd</sup> Influence



- 1st Broad Impact
- 2<sup>nd</sup> Publications
- 3<sup>rd</sup> Influence



# Summary for 2012 -2015 Correlation Factors

	1st Factor	2 <sup>nd</sup> Factor	3 <sup>rd</sup> Factor
2102	Quality of Faculty	Influence	Citation
2013	Quality of Faculty	Influence	Citation
2104	Broad Impact	Publications	Influence
2105	Broad Impact	Publications	Influence



#### Thank You!