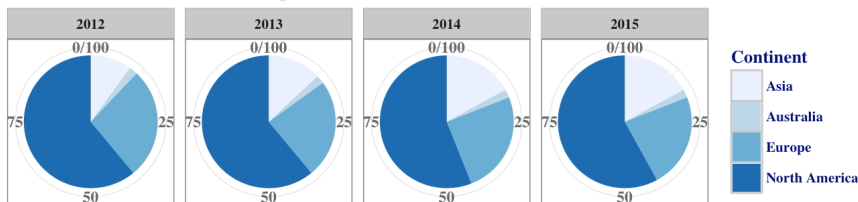
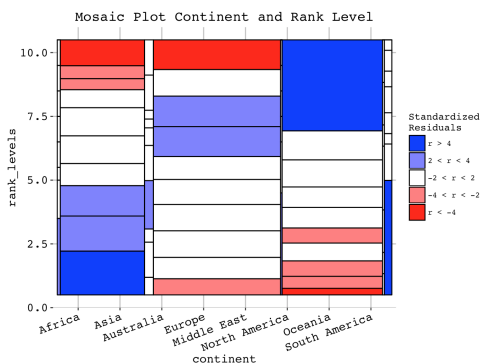


Distribution of Top 100 Univesities across Continents

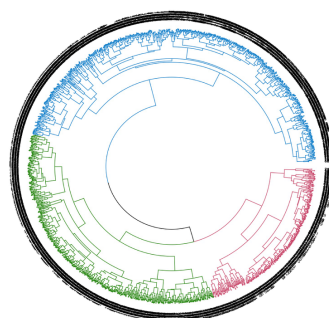


- More than half of top 100 universities around the world are in North America across the 4 years.
- Among four continents, Australia has the least number of universities ranking top 100.
- Asia has an increasing number of universities ranking top 100 from 2012 to 2015.

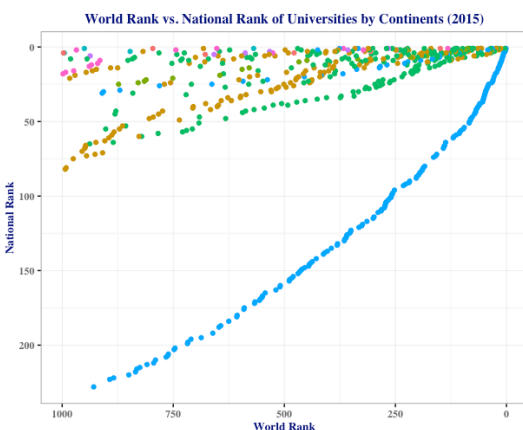


- Continent and Rank Levels are correlated
- Africa and Asia have more lower ranked universities
- USA and Europe have more higher ranked universities

Dendrogram of Clustering

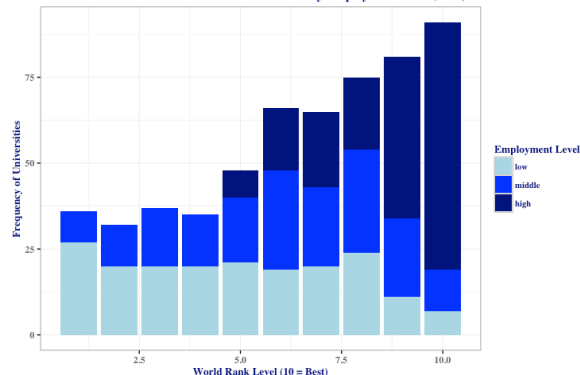


- Color by employment level, we see three distinct clusters.
- The labels are rank scores.



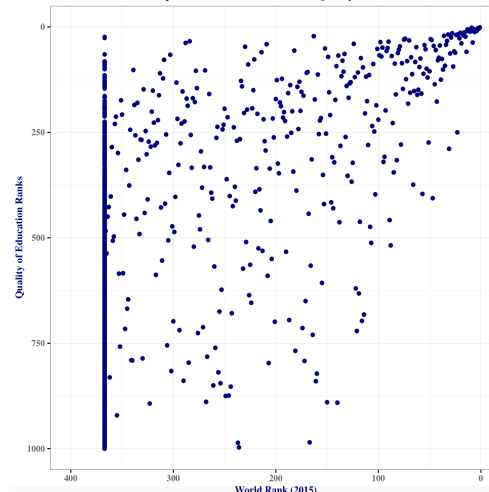
- World Ranks and National Ranks are positively correlated.
- The World Ranks of universities in North America have the smallest difference from the National Ranks.
- In other countries, National Ranks are much higher than World Ranks

Distribution of Universities World Rank Level by Employment Level (2015)



- Universities with higher World Ranks have higher Employment Level.
- Universities with lower World Ranks have lower Employment Level.
- Employment Level is closely related with World Ranking.

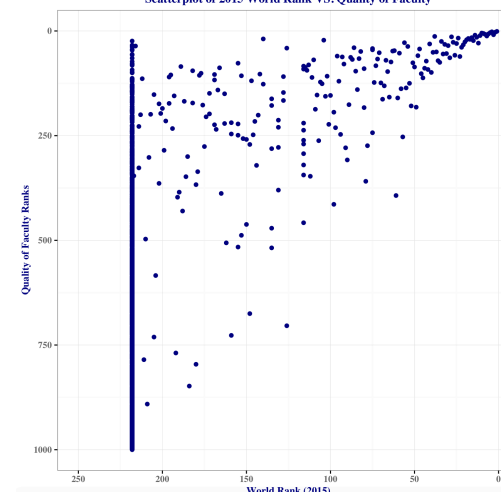
Scatterplot of 2015 World Rank VS. Quality of Education



Quality of education

- There is a strong correlation between quality of education and world rank with correlation of 0.6761.
- The  $R^2$  between world rank and quality of education is 0.46, so 46% of variation is explained with just quality of education.

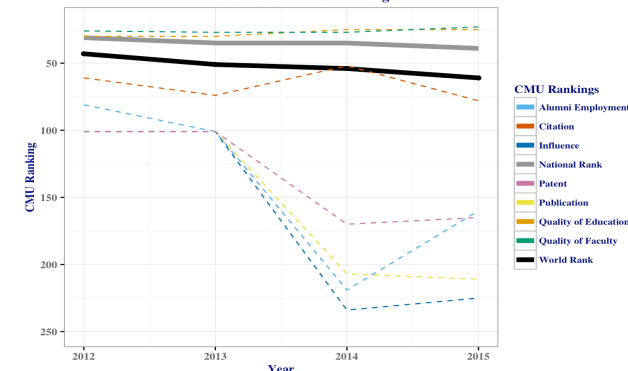
Scatterplot of 2015 World Rank VS. Quality of Faculty



Quality of faculty

- There is a strong correlation between quality of education and world rank with correlation of 0.664.
- The  $R^2$  between world rank and quality of education is 0.457, so 46% of variation is explained with just quality of faculty.

Time Series Plot of CMU Rankings



- World and national rankings of CMU decreased a little over the past 4 years.
- Rankings of education and faculty qualities increased a little over the past 4 years.
- There were great fluctuations in rankings of patents, publications, alumni employment, and influence of CMU over the past 4 years.

# EXPLORING WORLD UNIVERSITY RANKINGS

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Hanson Zeng

## Overview of Dataset:

The following dataset contains information on the top 1000 global universities and university characteristics for years 2012 to 2015. There are in total 20 variables. We transformed continuous variables to create patents\_factor, rank\_level, employment\_levels and continents as categorical variables. We explore relationships between these predictor variables and the university rankings.

