DR. SERGEY KHRAPAK

DATA ANALYST PORTFOLIO

GITHUB.COM/SKHRAPAK

THE RANKINGS

- THE (Times Higher Education) has been providing trusted performance data on universities for students and their families, academics, university leaders, governments and industry, since 2004. THE creates university rankings to assess university performance on the global stage and to provide a resource for readers to understand the different missions and successes of higher education institutions.
- OBJECTIVE: To understand factors affecting the place of a University in THE ranking, which countries perform better than others in the ranking list and how THE rankings have been evolving with time
- DATA: The database covers 2016-2025 years and include the University names, ranks, country, and a number of metrics. The data can be accessed <u>here</u>
- TOOLS: Python and Tableau
- ADDITIONAL LINKS: GitHub with scripts and Tableau story

UNIVERSITIES IN TOP100



Dominated by

USA (37)

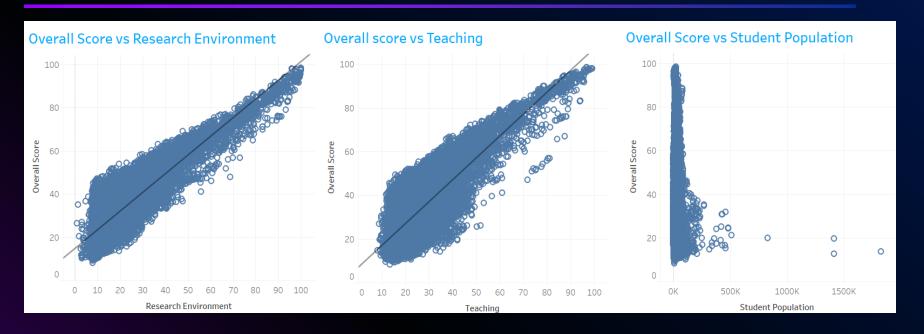
UK (12)

Germany (8)

China (7)

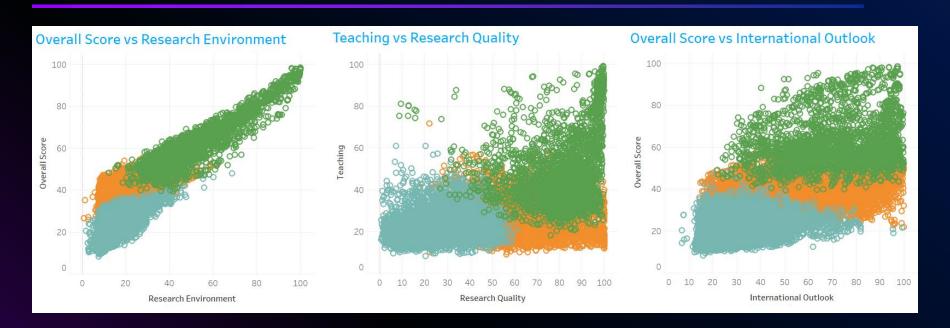
Australia (6)

MAIN FACTORS OF SUCESS



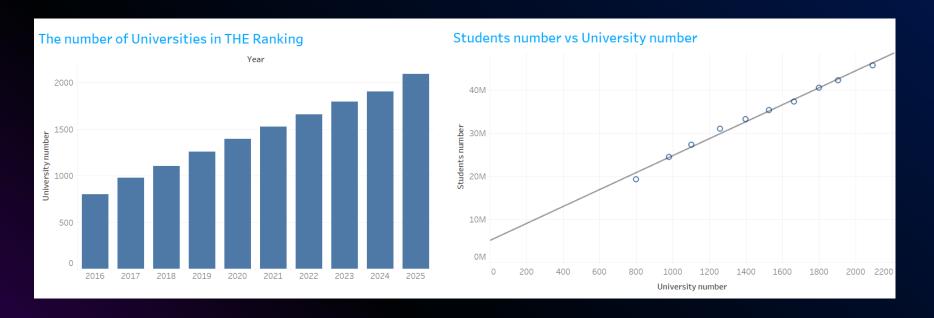
- The Overall Score which determines the University Rankings has strongest correlations with Research Environment (0.90), Research Quality (0.88), and Teaching (0.84)
- Weak to no correlations exist between the University rank and the Student Population (University size) and Students to Staff Ratio .

CLUSTERING OF UNIVERSITIES



 Unsupervised machine learning algorithm based on clustering analysis suggests three categories of Universities (low-, medium-, and highly-ranked)

CLUSTERING OF UNIVERSITIES



- The number of Universities in the THE Rankings increases by ca. 120 each year
- The number of students linearly increases with the number of Universities

MAIN OBSERVATIONS

- TOP Universities are mostly found in USA, UK, Germany, and China
- Most students are found in USA and China
- The main parameters affecting the rank of a University are Research Environment, Research Quality, and
 Teaching
- The rank is insensitive to the University size and Students to Staff Ratio
- Unsupervised machine learning technique indicates that the Universities can be conveniently divided into three clusters (low-, medium-, and highly-ranked)
- THE Rankings increase with time by adding approximately 120 Universities to the database each year

THANK YOU

Dr. Sergey Khrapak

sergey.khrapak@gmx.de

https://github.com/skhrapak