EPJ Techniques and Instrumentation

EPJ B Highlight - New university ranking system includes the cultural perspective

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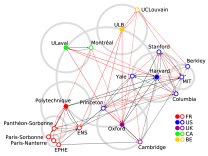

Network of friends of top 20 PageRank universities from the French Wikipedia edition.

A new study proposes a new way of ranking universities, using a more balanced cultural view and based on 24 international editions of Wikipedia

Scientists in France have developed a new way of generating a ranking of the world's universities that places more emphasis on the cultural perspective. In a recent study published in *EPJ B*, Célestin Coquidé and José Lages, affiliated with the multidisciplinary research institute UTINAM in Besançon, and Dima Shepelyansky from the CNRS in Toulouse, France, perform an analysis of Wikipedia editions in 24 languages, collected in May 2017 - previous studies pursuing a similar approach focused on data from 2013. Employing well-known ranking algorithms, they establish a Wikipedia Ranking of World Universities based on the relative cultural views of each of the 24 language-specific Wikipedia editions. Thus, they provide a more balanced view that reflects the standpoints of different cultures.

Specifically, the authors use (for the first time for this purpose) a new tool for the analysis of online networks, which is based on the PageRank algorithm and known as reduced Google Matrix analysis. This method was previously used to study the interactions of political leaders, terror networks and protein-to-protein interactions in cancer. In this study, Coquidé and colleagues determine the interactions between leading universities on a scale of ten centuries, which provides insights into the relative influence of specific universities in each country.

The authors then compare their ranking with a well-established system used in academia, called the Shanghai ranking, which has been compiled by Shanghai Jiao Tong University since 2003. The authors find an overlap of 60% for the top 100 universities. They believe, therefore, that the new ranking is a reliable alternative that attaches greater significance to universities' historical development. They argue that their ranking is based on a mathematical analysis of Wikipedia networks, and thus avoids the cultural bias that can arise in expert committees due to the members' different cultural views.

The authors also discuss the influence of specific universities on various countries, conducting a systematic analysis of the relationship between countries and universities and comparing data from 2017 with that from 2013. In closing, they also discuss the top 20 universities based on the English, French, German and Russian Wikipedia editions.

C.Coquidé, J.Lages, and D. L. Shepelyansky (2019), World influence and interactions of universities from Wikipedia networks, European Physical Journal B **92**:3, DOI: 10.1140/epjb/e2018-90532-7

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