Machine Learning in Finance: A Bibliometric Approach

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ABSTRACT

The present study comprehensively reviews the key influential and intellectual aspects of Machine Learning in Finance. The author employs the bibliometric approach using the VOSviewer software and RStudio to analyze 189 academic papers from the SCOPUS database between 1988 and December 2022. The paper conducts a bibliometric analysis of the performance of different constituents: authors, countries, institutions, and journals) to address the key influential aspect of Machine Learning in Finance. To identify the intellectual aspects of this area of research, we conducted the following science mapping techniques: co-authorship, co- word, and bibliographic coupling analyses. Our results revealed that Machine Learning literature has significantly increased since 2017, indicating the finance industry had some time to adopt newer technology. The authors find that the United States, China, and the United Kingdom were the most productive countries investigating issues related to this area of research. It is found that the Steven Institute of Technology in New Jersey, US is the most active research institute in this field of study. The study also discovered that the application of Machine Learning has been adopted in finance, artificial intelligence, big data, deep learning, crowdfunding, fintech, forecasting, credit risk, bankruptcy prediction, data mining, natural language processing and computational finance. Our research is subject to several limitations. This research only utilised the SCOPUS database, including articles written in English. Our findings assist academic scholars in exploring issues related to Machine Learning in Finance in future studies. The outcomes of the present study also may guide market participants, particularly Fintech and finance companies on how Machine Learning could be used in their decision-making.

Keywords: Finance, Machine Learning, Bibliometric