Review of: "Exploring machine learning techniques to develop predictive models to address unemployment rates in the implementation of Industry 4.0"

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Potential competing interests: No potential competing interests to declare.

This research explores the concept of using machine learning techniques to develop predictive models of unemployment rates in developing countries during the implementation of I4.0. A thorough examination was conducted through a literature review to determine the economic and social factors that impact unemployment rates in developing countries. The author(s) conclude that the use of machine learning algorithms to develop predictive models for unemployment rates in developing countries during the implementation of Industry 4.0 is a promising area of research with the potential to inform important decisions related to economic development, job creation, and poverty reduction.

The manuscript is well written in all usual standards of a research paper but there are some minor errors that I note below.

Comments:

- The author(s) in the abstract state: "*The examination of the literature uncovered that considerable influence on unemployment rates in these nations is attributed to elements such as economic growth, inflation, population increase, education levels, and technological progress.*". There is evidence, in the literature, that financial indices also play a crucial role in unemployment forecasting (see a list of papers below). According to economic theory, it is expected that the stock market will have a significant effect on employment. The same applies in the introduction section where the author(s) mention it again.
    - Pan, W. (2018). Does the stock market really cause unemployment? A cross-country analysis. The North American Journal of Economics and Finance, 44, 34–43. https://doi.org/10.1016/j.najef.2017.11.002
    - Sibande, X., Gupta, R., & Wohar, M. (2019). Time-varying causal relationship between stock market and unemployment in the United Kingdom: Historical evidence from 1855 to 2017. Journal of Multinational Financial Management, 49, 81–88. https://doi.org/10.1016/j.mulfin.2019.02.003
    - Gogas, P., Papadimitriou, T. and Sofianos, E. (2021) 'Forecasting unemployment in the euro area with machine learning', Journal of Forecasting, 41(3), pp. 551–566. doi:10.1002/for.2824
- In section "*research methods*", the first two paragraphs should be deleted or briefly mentioned in 1-2 sentences. The way a literature review is conducted, and the usefulness of the potential outcome are really straightforward and basic, thus, they should not be mentioned.

- The same applies for the section "*The literature review steps used in the study*". These questions are answered in the literature review itself and the whole section describes the very common way a literature review is conducted.
- The author(s) mention through the paper the term algorithms and techniques. They should refer to the machine learning algorithms as methodologies or algorithms. They should pick one and stick with it. Only the first time they should mention both terms. Techniques are a different thing, for example cross validation, training and testing split etc.
- Section "*Steps in developing a conceptual framework for the predictive model*" should be described briefly, it's a standard procedure. They are explained through the empirical part of the paper.