Review of: "Rules Extraction, Diagnoses and Prognosis of Diabetes and its Comorbidities using Deep Learning Analytics with Semantics on Big Data"

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Potential competing interests: No potential competing interests to declare.

The author should enhance the emphasis on their contributions, clearly highlighting how their proposed work addresses the limitations of previous studies. All acronyms should be defined upon their first usage to enhance reader comprehension.

The paper effectively provides a comprehensive analysis of diabetes mellitus (DM) and its comorbidities using tabular and text datasets. The commendable feature selection using techniques like RFE and correlation analysis significantly contributes to result accuracy. Notably, the comparison of FPG and HbA1c for prediction highlights FPG as a superior predictor. The study's inclusion of ethnic groups and geographical regions lends global relevance to its focus.

The utilization of advanced ML and NLP tools on cloud platforms underscores the authors' dedication to exploring diverse methodologies. The achieved diagnostic accuracy of up to 100% using deep multinomial learning demonstrates the potential of such techniques in medical diagnostics. The discussion on patient profiles and DM diagnosis provides valuable insights, although more clarity is needed on how models distinguish similar diseases.

The integration of deep multinomial learning with Fastai for data analysis is a promising advancement. However, deeper discussion on potential limitations and future improvements is necessary. The paper's recommendation to include additional diseases like Hepatogenous Diabetes and Antecedent Diabetes, along with Covid-19, is relevant and could enhance accuracy and scope.

In terms of improvement, ensuring a clear performance measure is essential to clarify the contribution of the work. Including bibliographic details, a separate Key Contribution and Problem Statement section, and a workflow or flowchart can enhance the paper's structure. Incorporating a comparative analysis table of related work and recent papers in the literature review would enrich its context.

For a stronger impact, presenting 8-10 results with detailed explanations in terms of percentage improvement over existing schemes would add value. Paying attention to ethical considerations, language clarity, and presentation quality is crucial. Removing typos and errors, ensuring diagram visibility, and comparing the proposed scheme with at least two base papers can enhance the paper's rigor.

To ensure broader applicability, discussing adaptability to different health scenarios, privacy and security measures, and cross-cultural transferability of the proposed architecture is essential. Moreover, elaborating on how automated diagnosis

recommendations produced by the architecture can be verified for accuracy will enhance credibility.

The manuscript displays commendable organization and structure. To enhance relevance, incorporating recent studies into the introduction and attending to a more substantial data size and expanded sample would strengthen the study's robustness. Broadening the comparative analysis by comparing diverse methodologies and data sets would enrich conclusions.

The discussion and conclusion should critically assess implications and acknowledge limitations. A well-summarized conclusion with practical recommendations for future research would add depth. Ensuring language precision through proofreading and editing will result in a coherent and impactful presentation of this valuable research.