## **COMP1682 – Final Year project** **Project Report - Feedback sheet**

## **Student Name and ID**: Rifath Ahmed, 001187671

**Supervisor Name**: Razia Sulthana Abdul Kareem, First Supervisor

## **Overall assessment**

This is an interesting project that predicts cardiovascular disease using advanced machine learning techniques.

1. Understanding of the Problem Domain. A good understanding on the problem domain and was clear in differentiating the background, motivation, challenges, and the research gaps. The set of datasets that were chosen for evaluating the work is relevant. The objectives are clearly described in the report. A lot of information on the literature papers is seen in the report and the comparison table on literature paper is relevant.

2. Good project ideas. The project dataset aligns well with the objectives outlined in the report. The implementation procedure demonstrated was well-structured, with a modular approach and a clear rationale for algorithm selection. The presenter exhibited good understanding in explaining the chosen algorithms and considering alternative options. While the proposed model did not yield exceptional results, the comparisons across different datasets were thorough and presented in a clear table format. Although the CNN algorithms applied were not novel or hybrid, the presenter displayed a strong knowledge of neural network concepts. They were transparent about the limitations of their results and acknowledged their similarity to existing ones. The complexity of algorithm implementations was effectively communicated and documented.

3. Has built the project, tested, and evaluated it, measured its performance. Appropriate performance metrics are used.

The achieved results are consistent with the objectives outlined. During the demo, the presenter was struggling to answer some of the queries on the comparison of the results of existing research works and acknowledge that the results were bit close to the existing ones. However, the thread that connects the cardiovascular prediction, choice of dataset, literature work, implementation algorithm, results are clear.

4, Conclusions and Critical Review. The implementation process revealed valuable insights and identified areas for improvement, which were thoroughly explained in the report. In conclusion, the assessment against objectives, key conclusion, reflection on the study, learnings and future work are well explained. The evaluation against the objectives and the resulting key insights were clearly articulated.

Overall: Meets all criteria. Shows a significant amount of critical analysis and exhibits an excellent understanding of the relevant issues. Product meets requirements.

**NOTE: During the viva session, the presenter was requested to produce results using both the original dataset and the augmented/generated data, which they promptly completed and sent via email to both the evaluators along with comprehensive details.**

**Comments on the viva/demonstration**

## Have you held a demonstration or viva for this project? YES / NO

YES, The demonstration showcased a functional code with accurate results and no errors. The objectives aligned well with the chosen datasets, and the demonstration effectively illustrated the results. The presenter demonstrated a clear understanding of research gaps and compared results with chosen datasets and alternate CNN approaches. The utilization of CNN and TabNet algorithms was explained clearly. The need for additional data generation due to the lack of existing medical datasets was well justified. However, some explanations regarding the novelty of the proposed work were not entirely clear. Although the author claimed to use different datasets and generate additional data, the achieved results did not surpass existing findings, although they were close.

**On the day of the VIVA, the presenter was requested to provide an additional set of results, which they promptly generated and emailed on the same day.**

## **Comments on the Standard of Presentation**

## Has the report met presentation criteria? YES/NO

YES.

The presentation and report are commendable, with a well-structured layout including a title page, table of contents, acknowledgements, and lists of tables and figures. Figures and tables are appropriately captioned and referenced throughout the report. A thorough literature analysis is conducted, highlighting research gaps and objectives clearly. The implementation section features a comparative table illustrating results from various datasets and methodologies. The conclusions, findings, and lessons learned are articulated effectively. However, enhancing the comparison table with results from existing related research could provide additional insight.

## **Authenticity of the Submission**

## All final reports are uploaded into TurnItIn for plagiarism checking.

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Comments on the TurnItIn report, and any other plagiarism issues.