

# Cardio Vascular Risk Using Deep Learning

\*<https://www.researchgate.net/publication/347443717>

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**Abstract**—Cardiovascular risk is one of the complicated diseases frequently found among older adults. It is essential to retrieve clinical data for taking machine-based decisions. The advantages and disadvantages of cardiovascular diseases will be discussed in this paper. Methodologies and the opinion of various authors will be discussed in brief. This paper also sheds light on Literature review and methods of cardiovascular risk.

**Keywords**—Cardiovascular risk;Clinical data;Machine-based decisions.

## I. INTRODUCTION

deep learning method is one of the advanced technologies for predicting all types of cardiovascular risks among all kinds of older adults. It is essential to do planning when implementing deep learning in predicting the probability of cardiovascular risk among all types of individuals. Frameworks must be analysed in brief for dealing with the implication of deep learning methods in dealing with all sorts of cardiovascular treatments. Different types of data sets analysis are of enormous importance for controlling all kinds of trends and results. According to the data set behaviour and forecasting, trends are adequately analysed. The deep learning method is one of the leading advanced ways where machine learning and artificial intelligence plays immense importance for controlling all types of cardiovascular methods and results. The deep learning method is used essentially for taking relevant and proper discussion related to cardiovascular treatments.

## II. LITERATURE REVIEW

Deep learning is one of the essential branches of machine learning. Classification of all types of data is mainly done with the help of medical approaches. Clinical information is mainly extracted and analysed properly for getting suitable kinds of outcomes. The efficiency of data is mostly dependent on the testing and training of data. Formulation of various approaches is mainly done with the synthesis of data. Deep learning requires all types of data synthesis related to probable cardiovascular risks. Concept of big data is also described in the entire paper [b1]. Deep learning method requires all types of solvable problems for figuring out different kinds of issues related to cardiovascular risks. With these technologies, it is

relatively easy to simplify all sorts of issues and methods. Standard- isation approach is quite important and relevant to detect different kinds of deceptions in advanced techniques. Standard statics is mainly evaluated with the help of deep learning techniques and ideas. Artificial intelligence is one of the progressive and cutting edge technology for solving all types of statistics problems. Prediction and probable analysis of the fundamental research is made based on such types of advanced technologies. With the concept of big data, it is essential for dealing with all kinds of methods and technologies. Automated decision making is critical features process. Clinical practice is one of the critical elements of analysing all types of datasets to deliver accurate kinds of results. Blood pressure, obesity, and other kinds of diseases play a significant role in various types of cardiovascular risk factors. With the help of deep learning methods, it is relatively easy to analyse the implications of different types of cardiovascular risks. Predictions can be easily made with the use of analysis of data model trends. Deep learning and machine learning methods help to extract data which mainly comprises neural networks. The different layers of neural networks are easily analysed with the help of neural processors. Cardiovascular risks treatments are made with the use of various types of outcomes provided by clinical data sets. Text data can be easily retrieved with different kinds of results and consequences. "Neural Language Processors" is one of the primary fundamental devices for converting all types of text data into digital languages. Mathematical models must be processed and appropriately designed for getting all kinds of relevant outputs. The deep learning method is the advanced techniques for analysing all types of cardiovascular risks and activities. Several individuals collected data for training the data and methods. Comparison of various clinical tables acts as one of the primary strategies for dealing with computations and statistical purposes. Comparative algorithms are used for evaluating the value of truth tables. A random comparative analysis is mainly made with the help of numerical approaches and implementations. The comprehensive research is primarily based on different types of mathematical models and statistical data.

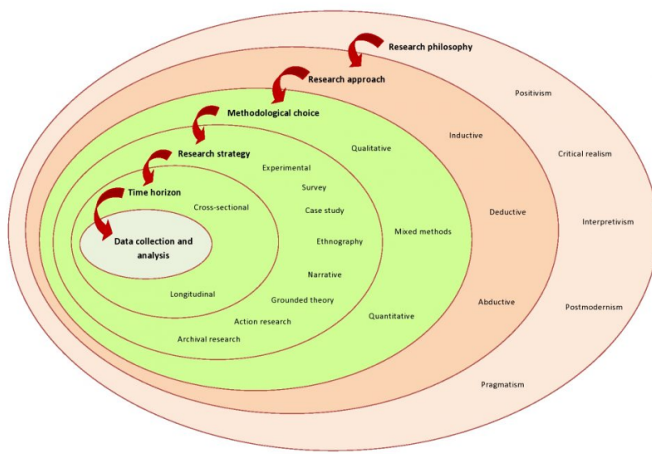


Fig. 1. Research Onion

### III. METHODOLOGY

The entire procedure of the research is described correctly. This section mainly comprises various types of procedural techniques and ideas. Relevant ideas related to the analysis of cardiovascular risks are primarily defined by analysing all types of research-based frameworks. The data collection method is done mainly with the help of advanced tools like "Kaggle datasets."

#### A. Research Philosophy:

This research follows "Positivism Philosophy". The entire analysis is based on hypotheses and methodologies. It is one of the most critical methods and a road map by which fundamental research is conducted accurately.

1) *Research Approach*:: It is essential to follow the right approach. A deductive approach is used for obtaining results based on hypotheses. It is one of the vital parts of conducting fundamental research related to cardiovascular risks. The deep learning method is used for completing the whole research [b2].

2) *Research strategy*:: It is essential to follow a proper strategy for conducting the entire analysis. A survey mainly comprises multiple systems which are equally beneficial for completing the whole study. "Positivism Philosophy" is used primarily for working the comprehensive surveys for the entire examination. It is quite essential to analyse all types of research-based frameworks for the benefit of the research conducted on the number of people vulnerable to cardiac arrests[b3]. With the help of the survey, it is relatively easy to complete the research in a given period.

3) *Research Method*:: It is the critical stage for conducting the overall process of the research. There are mainly three types of methods which are "Mono-method", "Mixed method" and "Multi-method". The mono method is primarily used for conducting the overall research. For fulfilling the aim of the study, it is easy to simplify the research-based problems. Boundary functions are mostly used for delivering different

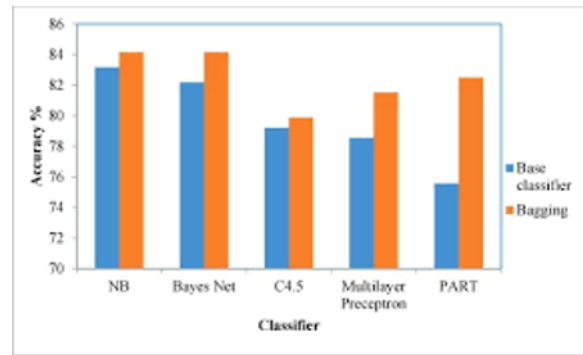


Fig. 2. Data analysis

purposes and activities. All types of short term and long term goals are used primarily for providing objects.

4) *Data Analysis*:: Secondary data analysis is mainly performed for fulfilling various goals. Project Deliverable goals are primarily conducted with the help of Kaggle. Excel is one of the essential tools for fulfilling different objectives and functions. Deep learning method for analysing all types of clinical data sets. Qualitative data analysis is mainly made throughout the entire data analysis. Data frameworks are mainly analysed with the help of data sets. Different types of procedures and functions help a lot in interpretation and analytical computations. From the analysis, it is mainly observed that individuals aged between 60 to 80 years are more vulnerable to cardiovascular risk and diseases. Probable statistics of cardiac risks are primarily accomplished with the help of deep learning methods. That is why data analysis is of significant importance for conducting the entire research.

### IV. PROS

Some of the significant advantages of cardiovascular risk using deep learning are as follows:

- First and foremost advantage of cardiovascular risk is that with the help of machine learning, it is relatively easy to detect all types of significant heart risks [b4]. Data-driven methods are mainly used for eliminating all types of cardiovascular problems. Retrieval of clinical data is one of the most important advantages when deep learning methods are primarily crucial for controlling all functions and procedures. It is relatively easy to manage all types of methods and results. According to this advantage, it is highly essential for fulfilling all sorts of aims and objectives.
- A second most important advantage of deep learning is that it mainly helps to develop all types of routine based data related to clinical data and is primarily used for creating new ideas and results. Variety types of current approaches using deep learning mainly predict all types of cardiovascular risks to protect all people from all sorts of complicated treatments. Machine learning method and deep learning method to retrieve all kinds of clinical data

which solves various types of tricky problems to some extent.

- A third most crucial objective of deep learning is that testing and training of various types of clinical data sets is quite essential for solving large amounts of problems [b5]. As a result, the prediction is mainly made in a more appropriate and precise way. Predictive accuracy is one of the essential methods for controlling all types of research-based process and results. Deep learning methods help to protect all patients from all kinds of cardiovascular risks. It is one of the essential advantages of using deep learning in all types of cardiovascular risks.
- Full hospitals implement machine learning to protect all patients from massive heart attacks and cardiovascular activities. It is one of the essential advantages of delivering all types of goals and functions. Clinical data is tested properly for monitoring all sorts of trends which is mainly used for fulfilling all types of problems. Data analysis is one of the primary methods for creating different kinds of strategies and activities.
- Computation of all types of frames is of primary importance that gives access to all kinds of analysis and functions. Saving the life of all older adults is one of the most important advantages of implementing deep learning methods. It is one of the leading and essential benefits of using deep learning, particularly in all types of cardiovascular risks. The advanced and robotic technique is used mainly for taking requisite decisions. Frameworks and models must be adequately analysed for getting all sorts of relevant outputs and results [b6]. Apart from this, it is quite essential 'for controlling all types of predictions and models for generating various kinds of new insights and implications. It is quite necessary to deal with all sorts of relevant methods and activities. It is relatively easy to control and monitor the conditions of various types of patients.

## V. CONS

Some of the significant disadvantages of deep learning in dealing with cardiovascular activities are as follows:

- One of the significant disadvantages is cost issues and highly complicated problems, which acts as a significant threat in all types of cardiovascular risks [b7]. For establishing all types of cardiovascular risks, it is essential for dealing with all kinds of problems. Cost and compliance frameworks are one of the most important reasons that are facing by most of the hospitals at present (Krittanawong et al., 2019). Data extraction and complicated functions are too challenging to comprehend correctly. Concept of artificial intelligence is of the utmost importance when a deep learning method is implemented for predicting the risks of every individual.
- Maximum people cannot afford all types of expensive systems and gadgets, which is one of the significant disadvantages of all types of cardiovascular activity. It is relatively easy to deal with all sorts of substantial

ideas and functions of all kinds of machine learning technologies. It is quite crucial for controlling all types of procedures and results, which is one of the significant disadvantages of deep learning techniques. Data sets related to clinical treatments are quite complicated and difficult to handle for making predictions which is one of the most important disadvantages.

- Understanding the deep learning methods for the treatment of cardiovascular diseases requires a lot of skilled personnel which is one of the most important disadvantages that is faced by a lot of hospitals nowadays. Crisis and lack of planning are one of the significant and significant penalties of deep learning techniques.
- A most critical disadvantage is using all types of advanced technologies like "deep learning" is high and exceeding cost for which the hospitals are facing a significant amount of losses. That is why it is quite essential to monitor the trends of cardiovascular risks. A shortage of knowledge of handling data sets is one of the most important disadvantages of deep learning methods. Lack of availability of resources and employees is one of the most significant drawbacks that most of the private organisations are facing at present.
- Plotting of graphs after analysing all types of data related to cardiovascular risks become quite complicated, which is one of the most important disadvantages. That is why the wrong outputs are generated when the analysis is mainly done. Due to this method, deep learning is not used every time. This is one of the most important disadvantages of deep learning methods. Testing and training of data sets require a lot of time which is one of the most significant drawbacks of implementing deep learning methods in predicting the risks of cardiovascular problems. These are some of the most important disadvantages that most of the organisations are currently facing related to the implementation of deep learning in treatment of cardiovascular risks of all older adults .

## VI. CONCLUSION

It is concluded that deep learning method is primarily used for controlling all types of cardiovascular problems among different elderly individuals. Machine learning methods and artificial intelligence help to give accurate decisions by retrieval of various types of clinical data. Analysis of all types of frameworks provides a leading role over other kinds of methods and procedures. It is quite crucial for monitoring the progress of cardiac patients using deep learning methods. Data extraction process helps to simplify the research in a timelier manner. With the help of performance, it is essential for delivering research goals.

## ACKNOWLEDGEMENT

The author wishes to thank Dr Philips Davies and Dr Festus Adedoyin in the Department of Computing, Bournemouth University UK for their continuous help and support.

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