

Smart Health Card Using Android Technology

Mayuri Jagannath Ghatage¹, Prajakta Shantaram Kanase², Saloni Bajrang Kamble³,
Aishwarya Jivandhar Chougule⁴, Prof. Umesh Anandrao Patil⁵

¹ Student, Computer Science Engineering, D. Y. Patil technical campus talsande, Maharashtra, India

² Student, Computer Science Engineering, D. Y. Patil technical campus talsande, Maharashtra, India

³ Student, Computer Science Engineering, D. Y. Patil technical campus talsande, Maharashtra, India

⁴ Student, Computer Science Engineering, D. Y. Patil technical campus talsande, Maharashtra, India

⁵ Assistant Prof., Computer Science Engineering, D. Y. Patil technical campus talsande, Maharashtra, India

ABSTRACT

Disease Prediction system is based on predictive modeling predicts the disease of the user on the basis of the symptoms that user provides as an input to the system. The system analyzes the symptoms provided by the user as input and gives the probability of the disease as an output Disease Prediction is done by implementing the Decision tree Classifier. CNN Classifier calculates the probability of the disease. Along with disease prediction system also calculates severity of disease and as per severity of disease suggests medicine. Suggesting diet and appropriate exercise is another merit of proposed system. Prediction of disease involves current as well as medical history of user.

Keyword Health Card, CNN (Convolutional Neural Network), Classification;

1. INTRODUCTION

The prediction of disease at earlier stage becomes important task. But the accurate prediction on the basis of symptoms becomes too difficult for doctor. There is a need to study and make a system which will make it easy for end users to predict the harmonic diseases without visiting physician or doctor for diagnosis. Additionally, in terms of personalized healthcare and disease prevention services, these depend primarily on the strategy used to derive knowledge from the analysis of lifestyle factors and activities. Through the use of intelligent data retrieval and classification models, it is possible to study disease, or even predict any abnormal health conditions. To predict such abnormality, the Convolutional neural network (CNN) model is used, which can detect the knowledge related to disease prediction accurately from unstructured medical health records. However, CNN uses a large amount of memory if it uses a fully connected network structure. Moreover, the increase in the number of layers can lead to an increase in the complexity analysis of the model.

2. NEED OF PRESENT WORK

As an important application of medical informatization, healthcare big data analysis has been extensively researched in the fields of intelligent consultation, disease diagnosis, intelligent question-answering doctors, and medical assistant decision support, and has made many achievements. In order to improve the comprehensiveness and pertinence of the medical examination, this paper intends to use healthcare big data analysis combined with deep learning technology to provide patients with potential diseases which is usually neglected for lacking of professional knowledge, so that patients can do targeted medical examinations to prevent health condition from getting worse. Inspired by the existing recommendation methods, this paper proposes a novel deep-learning-based hybrid recommendation algorithm, which is called medical-history-based potential disease prediction algorithm.

3. OBJECTIVES

- To develop norms and standards for accreditation of the Health Care Organization and adopt means of evaluation of such institutions, so as to improve the quality of health care in the community.
- To Implement the system user friendly.
- To calculate severity of disease with the help of machine learning
- To assist user in choosing correct diet and exercise.

4. SYSTEM ARCHITECTURE

The correct prediction of disease is the most challenging task. To overcome this problem data mining plays an important role to predict the disease. Medical science has large amount of data growth per year. Due to increase amount of data growth in medical and healthcare field the accurate analysis on medical data which has been benefits from early patient care. This system is used to predict disease according to symptoms. As shown in figure below, database containing symptoms of different diseases is fed as input to system along with current symptoms of user and medical history of patient (when patient observed same type of symptoms before). Android based system used CNN algorithm to predict disease patient is suffering from. After predicting disease system classified disease into mild, moderate and severe conditions.

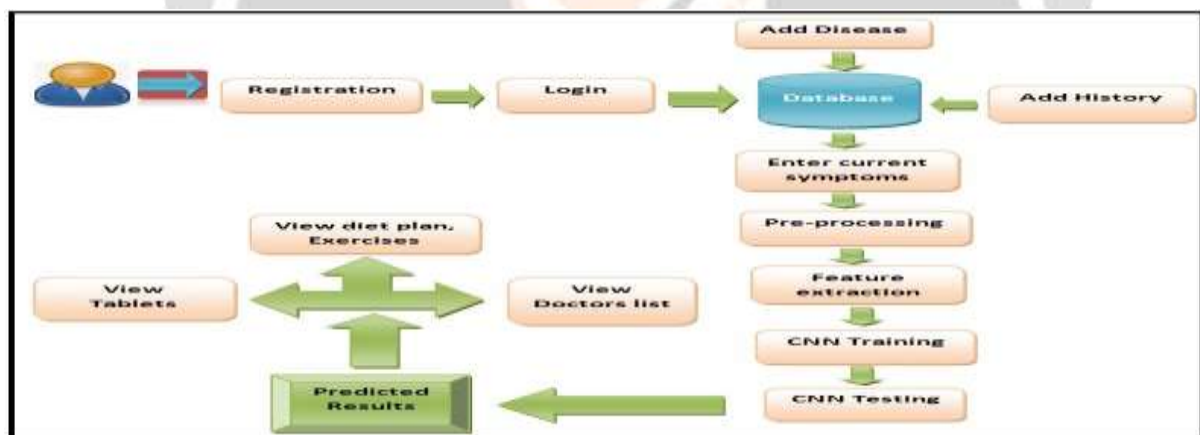


Fig -1: System Architecture

4.2 Use Case Diagram

The use case diagram as shown in figure 4.4 summarizes the relationships between use cases and actors. The two main actors are farmer and server. Firstly, farmer uploads an image in application then the work of server is to process the image to detect and classify type of disease. Then message containing disease information and precaution measures is displayed on application on the user's end.

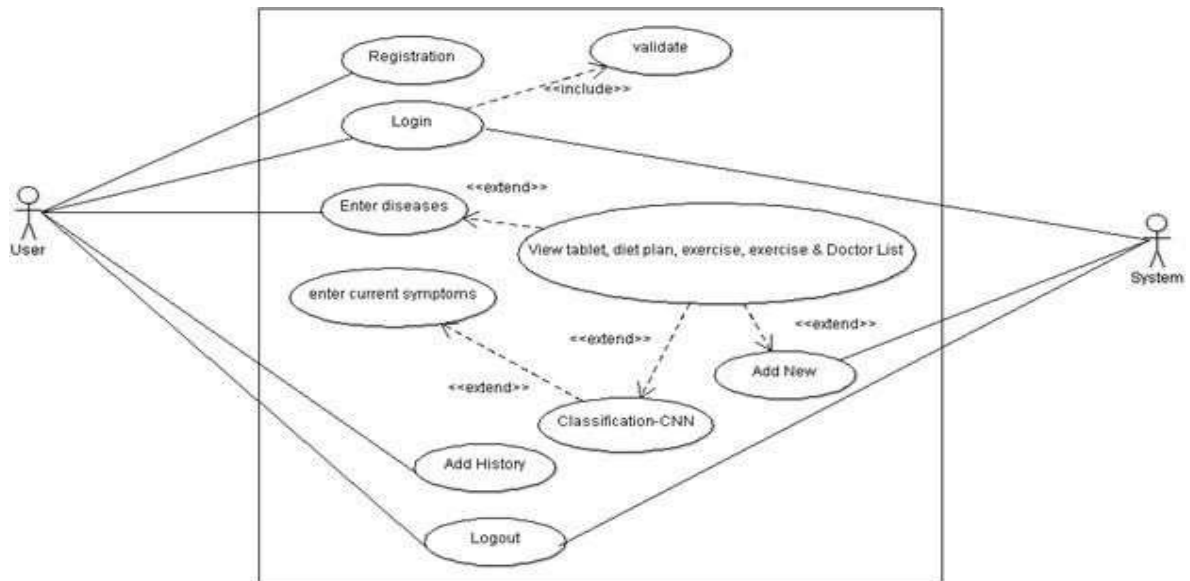
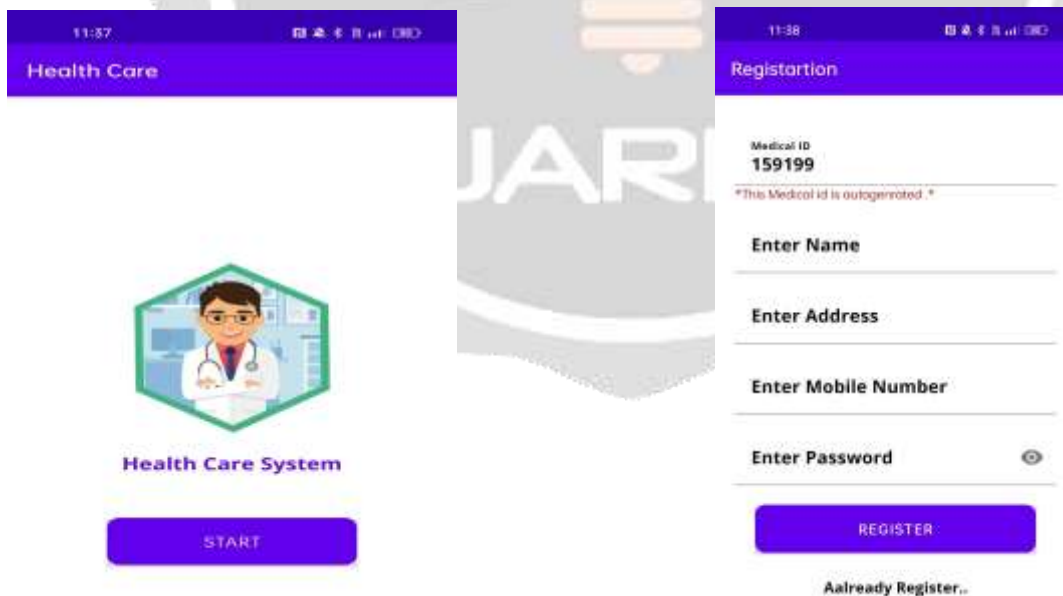
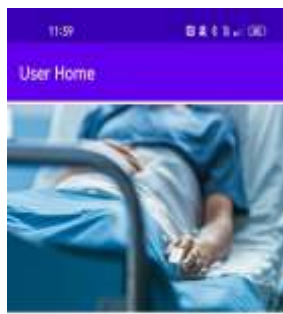


Fig -2: Use case Diagram

6.2 RESULT:





* Your Medical Id - 159199

- MEDICAL HISTORY
- CURRENT DISEASE
- ADD HEALTH ISSUE
- PREDICT DISEASE
- PROFILE
- LOGOUT



Medical Id	Diseases
159199	Headache



Current Diseases	
Medical Id	159199
Date	Dec 29, 2022
Diseases	Headache
Symptoms	abc
NOT NOW NOW HEALTHY	



159199

Dec 29, 2022

Headache

abc

ADD



Select History	
Disease History	
Recover	Diseases
Dec 29, 2022	Headache

5. CONCLUSION

We proposed general disease prediction system based on machine learning algorithm. We utilized KNN and CNN algorithms to classify patient data because today medical data growing very vastly and that needs to process existed data for predicting exact disease based on symptoms. We got accurate general disease risk prediction as output, by giving the input, as patients record which help us to understand the level of disease risk prediction. Because of this system may leads in low time consumption and minimal cost possible for disease prediction and risk prediction. We can say CNN is better than KNN in terms of accuracy and time.

6. REFERENCES

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