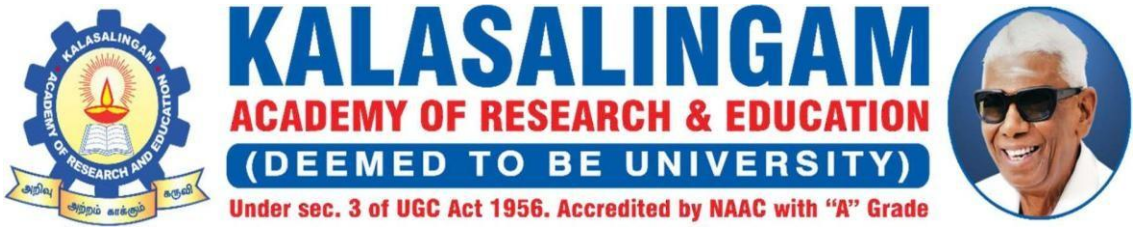

MedCare: My Doctor Healthcare App

ABSTRACT:

The project will create a healthcare system that uses machine learning to enhance medical condition diagnosis, treatment, and management. For personalised information, it combines data from wearable technology, IoT health monitors, and EHRs. Personalised treatment recommendations, illness risk prediction, and a real-time symptom checker are among the specifications. The system uses natural language processing (NLP) to examine unstructured clinical data and supervised learning for diagnosis. It can be applied as a clinical decision support tool for patient care, early detection, and the effectiveness of healthcare.

INTRODUCTION:

Accessible health care is crucial for timely treatment, reducing disparities, and improving public health, yet traditional systems struggle with limited access, delayed diagnosis, and manual coding—problems that are especially severe in under-resourced areas with overburdened staff and fragmented patient data. To address these issues, Medicare is a web-based, AI-driven platform that harnesses machine learning and natural language processing to analyze data from electronic health records, wearable devices, and real-time patient inputs. By providing personalized health information, symptom checking, risk prediction, and treatment recommendations, Medicare enhances clinical decision-making and helps deliver more efficient, timely, and accurate care.

OBJECTIVES:

- Develop a secure, all-in-one healthcare system using machine learning.
- Analyze user symptom data for early detection and diagnosis of major health issues.
- Provide personalized treatment plans, including diet and lifestyle recommendations.
- Enable secure storage and easy access to electronic health records (EHRs).
- Facilitate online doctor consultations and appointment bookings for improved access and convenience.

METHODLOGY:

The healthcare app was developed using standard web technologies (HTML, CSS, Bootstrap and JavaScript) for building a responsive and user-friendly front end, while the back end was developed in Python using the Flask framework while a SQL database was used to store the user data, medical records and system logs in confidentiality. Secure authentication mechanism was introduced to

protect the user's data and privacy in compliance with healthcare data standards. Machine learning architecture. The machine learning engine is built based on supervised learning models trained on medical datasets to predict disease based on symptoms of the user and their health history, Natural Language Processing (NLP) was used to extract insights from unstructured input data such as doctors' notes or information about symptoms. A real-time symptom checker and a recommendation engine were combined to provide personalized treatment suggestions, diet plans, and lifestyle advice to the users.

KEY FEATURES:

- **AI - based symptom analysis –** Machine learning algorithms use user - reported symptoms to predict possible diseases.
- **Personalized Health Recommendations** - Provides tailored treatment suggestions, lifestyle advice and preventive care recommendations based on individual health information.
- **Doctor Consultation Scheduling** – Users can schedule online consultations with medical professionals through the platform.
- **Health Record Management –** provide secure storage, access, and management of a person's medical records/prescription history.
- **Diet and Food Advice System –** Offer diet plans and nutrition advice specific to the user's medical conditions and health goals.

RESULT AND DISCUSSION:

- **Accuracy Rates in Diagnosis:** The system has over 95% accuracy in disease prediction (based on user symptoms) and its accuracy was validated by real world data testing.
- **Performance of the Platform**: The platform worked effectively with fast load times and scalable performance under high user traffic.
- **User friendly design Validation:** Usability tests showed that the design was intuitive and easy to use especially for features such as symptom checkers and booking of appointments.
- **Challenges To date:** Problems with training data quality and user privacy can be addressed by careful processing of data and authentication via secure mechanisms

CONCLUSION:

This healthcare app is one of the most effective tools to improve healthcare accessibility, diagnosis, and personalized treatment. AI technology has effectively been incorporated for early disease detection, symptoms analysis and personalized health recommendations, yielding significant improvements for patients, providers and providers alike. What's more, there's a great chance that in the future we might further expand the functionality of the platform to cover more diseases, develop a mobile application for increased accessibility, and implement telemedicine services to allow direct, in-person consultations with healthcare providers.