**ABSTRACT AND OBJECTIVES OF THE PROJECT**

## Abstract

The Symptom Checker project is a healthcare-focused web platform powered by Artificial Intelligence (AI), designed to help users identify potential medical conditions based on their symptoms. Leveraging machine learning algorithms like Naïve Bayes and Decision Trees, the platform provides users with diagnostic suggestions in real-time. Developed using the MERN stack for the front and backend, along with FastAPI integration for the AI model, the system offers a seamless user experience and responsive design across devices. The platform ensures secure data handling using OAuth 2.0, encrypted transmission, and role-based access control, making it suitable for both individual use and integration with electronic health record (EHR) systems. This project bridges the gap between healthcare professionals and patients, providing instant preliminary analysis, enhancing healthcare accessibility, and supporting early intervention strategies.

## Objectives

- To develop an AI-powered platform for preliminary symptom-based diagnosis.
- To integrate Naïve Bayes and Decision Tree models for accurate and interpretable disease prediction.
- To ensure secure and scalable architecture using MERN stack and FastAPI.
- To create a responsive and user-friendly interface for both patients and administrators.
- To enable easy integration with existing EHR systems using RESTful APIs.
- To ensure data privacy and security compliance with industry standards like HIPAA.
- To allow continuous improvement of model performance through active learning and user feedback.