Revolutionizing CVD Prevention and Management: A Comprehensive AI-Powered Solution

AlHourani, Adi (School: Islamic Educational College - Jubeiha)

Cardiovascular diseases (CVDs) cast a long shadow over humanity, claiming an estimated 17.9 million lives globally each year. This silent epidemic encompasses a range of heart and blood vessel disorders, with coronary heart disease and stroke reigning as the deadliest culprits. More alarmingly, one third of these deaths occur prematurely, before individuals reach the age of 70, robbing them of precious years and leaving scars on families and communities. This project aims to develop an integrated AI-powered system that combines a mobile companion app for continuous monitoring, an AI doctor's software for real-time diagnosis, and a patient location tracking system for emergency response, all combined to predict heart attacks from (CVDs) with 15 minutes ahead time. This comprehensive solution addresses the challenges of early detection, timely intervention, and access to emergency care for individuals with (CVDs). While the concept of using AI for CVD monitoring and diagnosis is not entirely new, the specific implementation and integration of AI into a companion app and an AI doctor’s software is a novel approach. The combination of real-time monitoring, AI-powered diagnosis, and predictive risk assessment using patient medical profiles and genetic information makes this project stand out from previous attempts. The project also addresses the limitations of existing solutions by providing a comprehensive and personalized healthcare solution for CVD prevention and management.